United States Army Corps of Engineers
New England District

Final Remedial Investigation Report

Nike Anti-Aircraft Missile Battery BU-51/52

(Nike Battery) Launch Area

Hamburg, Erie County, New York

FUDS Project Number: C02NY0079

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August 2022

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Nike Anti-Aircraft Missile Battery BU-51/52
(Nike Battery) Launch Area
Hamburg, Erie County, New York

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CERTIFICATION

I hereby certify that the enclosed Report, shown and marked in this submittal, is that proposed to be incorporated with Contract Number W912WJ-19-D-0014. This document was prepared in accordance with the U.S. Army Corps of Engineers (USACE) Scope of Work and is hereby submitted for Government approval.

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Acronyms and Abbreviations

%	percent
°F	degrees Fahrenheit
µg/L	microgram per liter
ADAF	age-dependent adjustment factor
ADR	Automated Data Review
amsl	above mean sea level
AOC	Area of Concern
AST	aboveground storage tank
ASTM	American Society of Testing and Materials
ATSDR	Agency for Toxic Substances and Disease Registry
Avatar	Avatar Environmental, LLC
BERA	baseline ecological risk assessment
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene and xylene
BTV	background threshold value
CalEPA	California Environmental Protection Agency
C&D	construction and demolition
CENAE	United States Army Corps of Engineers, New England District
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
cm/s	centimeters per second
COC	constituent of concern
COPC	constituent of potential concern
COPEC	constituent of potential ecological concern
CSF	cancer slope factor
CSM	conceptual site model
DAD	dermally absorbed dose
DERP	Defense Environmental Restoration Program
DL	detection limit
DO	dissolved oxygen
DoD	U.S. Department of Defense
DQO	data quality objective
EC	exposure concentration

250	EcoSSL	ecological soil screening level
251	ELCR	excess lifetime cancer risk
252	EPC	exposure point concentration
253	ER	Engineer Regulation
254	ERA	ecological risk assessment
255	ESV	ecological screening value
256	FOD	frequency of detection
257	ft/ft	foot per feet
258	ft/sec	feet per second
259	ft/y	feet per year
260	FUDS	Formerly Used Defense Site
261	FUDSChem	Formerly Used Defense Site Chemical (database)
262	GOF	goodness-of-fit
263	GSA	General Services Administration
264	GZA	GZA Environmental
265	HEAST	Health Effects Assessment Summary Tables
266	HHRA	human health risk assessment
267	HI	hazard index
268	HMW	high molecular weight
269	HQ	hazard quotient
270	HTRW	hazardous, toxic, and radioactive waste
271	Inc.	Incorporated
272	INPR	inventory project report
273	IPaC	Information for Planning and Consultation
274	IRIS	Integrated Risk Information System
275	IUR	inhalation unit risk
276	JV	SERES-Arcadis Joint Venture
277	Katahdin	Katahdin Analytical Services of Scarborough, Maine
278	LANL	Los Alamos National Laboratory
279	LCS	laboratory control sample
280	LLC	Limited Liability Company
281	LMW	low molecular weight
282	LOD	limit of detection
283	LOAEL	lowest observed adverse effect level
284	LOQ	limit of quantitation

285	M&E	Metcalf & Eddy
286	MCL	maximum contaminant level
287	MS	matrix spike
288	MSD	matrix spike duplicate
289	NA	not applicable/not available
290	NAVD 88	North American Vertical Datum of 1988
291	NCP	National Oil and Hazardous Substances Pollution Contingency Plan
292	NHP	Natural Heritage Program
293	Nike Battery	Nike Anti-aircraft Missile Battery BU-51/52
294	NOAEL	no observed adverse effect level
295	NYS	New York State
296	NYSDEC	New York State Department of Environmental Conservation
297	NYSDOH	New York State Department of Health
298	ORNL	Oak Ridge National Laboratory
299	ORP	oxidation-reduction potential
300	OSWER	Office of Solid Waste and Emergency Response
301	PAH	polycyclic aromatic hydrocarbon
302	PCB	polychlorinated biphenyl
303	PE	Professional Engineer
304	PEF	particulate emission factor
305	PPRTV	Provisional Peer-Reviewed Toxicity Value
306	PRP	Potentially Responsible Party
307	PVC	polyvinyl chloride
308	QA	quality assurance
309	QAPP	quality assurance project plan
310	QA/QC	quality assurance /quality control
311	QC	quality control
312	RAGS	Risk Assessment Guidance for Superfund
313	RAWP	remedial action work plan
314	RfC	reference concentration
315	RfD	reference dose
316	RI	remedial investigation
317	RME	reasonable maximum exposure
318	RQD	rock quality designation
319	RSL	regional screening level

SDG	sample delivery group
SEDD	staged electronic data deliverable
SJB	SJB Services, Inc.
SI	site investigation
SLERA	screening level ecological risk assessment
SMDP	scientific management decision point
SOP	standard operating procedure
SVOC	semi-volatile organic compound
SWAT	special weapons and tactics
TAL	target analyte list
TCE	trichloroethene
TCL	target compound list
TO	task order
TOC	total organic carbon
TPH	total petroleum hydrocarbon
TPP	technical project planning
UCL	upper confidence level
UFP-QAPP	Uniform Federal Policy for Quality Assurance Project Plans
URF	unit risk factor
U.S.	United States
USACE	United States Army Corps of Engineers
USCS	Unified Soil Classification System
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
UST	underground storage tank
UTL	upper tolerance limit
VDEQ	Virginia Department of Environmental Quality
VF	volatilization factor
VISL	vapor intrusion screening level
VOC	volatile organic compound
WP	work plan
WWTP	wastewater treatment plant

Executive Summary

This Remedial Investigation (RI) Report has been prepared by the Seres-Arcadis 8(a) JV, LLC (JV) on behalf of the United States Army Corps of Engineers (USACE) to document the remedial investigation activities performed at the Nike Anti-aircraft Missile Battery BU-51/52 (Nike Battery), located in Hamburg, Erie County, New York (Nike Battery; **Figure 1-1**). The RI was conducted in compliance with the Defense Environmental Restoration Program statute (10 United States Code 2701 et seq.), which requires that remedial investigation activities to evaluate contamination caused by Department of Defense (DoD) activities at Formerly Used Defense Sites (FUDS) be carried out subject to and consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended (42 USC § 9601 et seq.), and the National Oil and Hazardous Substances Pollution Contingency Plan. This RI Report is consistent with the United States Environmental Protection Agency (USEPA) Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA (USEPA 1988). All work was conducted in accordance with procedures developed in the Final Uniform Federal Policy for Quality Assurance Project Plan, Remedial Investigation, Nike Anti-aircraft Missile Battery BU-51/52 (Nike Battery) Launch Area, Hamburg, Erie County, New York (SERES-Arcadis JV, LLC [JV] 2020) (herein referred to as Final RI QAPP).

Objective

In accordance with the FUDS assignment, the RI was conducted only within the former Nike Battery Launch Area (**Figures 1-2, 1-3 and 1-4**). The overall goals of the RI were to:

- Gather sufficient information to assess and delineate the nature and extent of impacts (if present) in soil and groundwater from Department of Defense (DoD) activities in the Launch Area of the former Nike Battery.
- Collect data sufficient to evaluate potential risks to human health and the environment.
- Collect data sufficient to meet USACE and regulatory requirements and support remedial alternative decisions, if needed, for the former Nike Battery Launch Area.

The objective of the RI Report is to provide data sufficient to meet USACE and regulatory requirements and support remedial alternative decisions, if needed, for the former Nike Battery Launch Area or to justify a determination of either No DoD Action Indicated or No Further Action. This objective was met while meeting the requirements of the following guidance documents:

- Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA. EPA/540/G-89/004. OSWER Directive 9355.3-01. Interim Final (USEPA 1988)
- Engineer Regulation (ER) 200-3-1 – Environmental Quality FUDS Program Policy (USACE 2004a)

Remedial Investigation Field Work Summary

RI activities at the former Nike Battery Launch Area were conducted from May 19, 2020 to March 5, 2021, in accordance with the Final RI QAPP (JV 2020). The methods and results of the RI activities are included in this RI Report. Fieldwork included the following primary tasks to meet the objectives of the RI:

- Ecological habitat assessment;
- Downgradient residential potable well survey;
- Overburden and bedrock groundwater monitoring well installation with collection of surface / subsurface soil samples from monitoring well borings;

- Surface and reference soil sampling;
- Groundwater sampling;
- Hydraulic conductivity testing.

In conjunction with the RI field work, four historical monitoring wells located within the Nike Battery were decommissioned.

Habitat Assessment

A habitat assessment was conducted to document ecological habitat, identify potential ecological receptors, and evaluate the potential for ecological exposure to constituents in soil. The results from the habitat assessment were presented to the USACE in a memorandum, which was provided as Appendix B of the Remedial Investigation Field Report, Former Nike Anti-Aircraft Missile Battery, BU-51/52 Launch Area, Erie County, New York (JV 2021). The results indicate that only small areas (approximately ½-acre) of successional old field at the site perimeter provide potential habitat. The former Launch Area is actively used by the county and is largely covered with gravel, asphalt, or buildings and ecological exposure to soil in these areas is not possible. Similarly, other areas of the former Launch Area are maintained lawn. Lawn areas are not a natural cover type and provide limited wildlife habitat. On site habitat does not support abundant and diverse populations of wildlife, and potential exposure for populations of ecological receptors (plants, soil invertebrates, birds, and mammals) is limited.

Soil Data Collection

Surface and subsurface soil samples were collected during installation of 16 overburden wells (sample ID MW designation) (**Figure 3-1**). Soil samples were collected from the top of native material to the water table and analyzed for target analyte list (TAL) metals and hexavalent chromium, target compound list (TCL) volatile organic compounds (VOCs), TCL semi-volatile organic compounds (SVOCs), hydrazines, grain size, total organic carbon, and moisture content. Soil samples from overburden monitoring well borings were collected from the following depths:

- A: Surface samples were collected from the top 1 foot of native material.
- B: Depth of 1 to 3 feet below ground surface (bgs), or the 2-foot interval immediately below the surface soil sample depth.
- C: Highest indication of contamination or just above first water-bearing zone if no indication of contamination.

Surface soil samples (0 to 1 foot bgs) (sample ID SL designation) were collected from eight locations associated with historical and current use of the former Launch Area (e.g., drum storage areas, generator building/transformer pad, acid storage shed, former missile silos) (**Figure 3-2**). Based on the activities conducted at these locations, surface soil samples were analyzed for TAL metals, TCL VOCs, TCL SVOCs, and hydrazines, to evaluate the potential risks associated with surface soil exposure to site users.

Three of the surface soil samples (0 to 1 foot) collected in the vicinity of the former transformer pad were analyzed for polychlorinated biphenyls (PCBs).

Reference surface soil (0 to 1 foot bgs) and subsurface soil (1 to 3 feet bgs) samples (sample ID BH designation) were collected from 16 locations and analyzed for metals and polycyclic aromatic hydrocarbons (PAHs) to gather site-specific information on naturally occurring and/or anthropogenic background conditions. The reference sample data were compared to concentrations in samples from the former Launch Area. The Reference Area is immediately northeast of the former Launch Area and is currently used by the Town for recreational purposes.

Groundwater Data Collection

New overburden and bedrock monitoring wells were installed to evaluate the nature and extent of groundwater impacts (if present) and for evaluation of vertical and horizontal groundwater flow patterns (**Figure 3-1**). Two rounds of sampling were conducted: September 2020 and December 2020. During each event, water levels of monitoring wells were measured, and groundwater samples were collected for analysis of TAL metals, TCL VOCs, TCL SVOCs, and hardness.

In general, there was little difference in the depth to water in the overburden and bedrock wells, indicating that overburden and bedrock groundwater are hydrologically connected with an assumed slight downward gradient. However, there were some exceptions where bedrock wells were slow to recharge and had lower water levels (i.e., NHFLA-MW5BR). Groundwater level measurements collected during the September 2020 (**Figure 4-4**) and December 2020 (**Figure 4-5**) sampling events were used to generate groundwater contour maps. The direction of groundwater flow in the overburden wells is to the south and the direction of groundwater flow in the bedrock wells is to the southeast.

Slug tests in overburden wells were used to evaluate hydraulic conductivity (**Table 4-1**). The locations of slug tests were distributed across the investigation area to be representative of the site as a whole. Falling head and rising head tests were performed on each well in accordance with the Final RI QAPP (JV 2020). With the exception of well NHLA-MW16, the wells recovered quickly during testing, indicating relatively high hydraulic conductivity. Well NHLA-MW16 took an extended time to recover, indicating a lower relative hydraulic conductivity.

Residential Wells Survey

A desktop and windshield survey were conducted within a 1-mile radius of the site to evaluate the potential presence of water supply wells at the adjacent residences. The survey did not identify residential wells within the survey area.

Soil and Groundwater Data Evaluation

The former Launch Area is currently owned by the Town of Hamburg and is used by the Highway Department for office space, truck garage space, and storage of gravel piles and road salt. The current and foreseeable future land use for the former Launch Area is industrial. Soil analytical data were therefore evaluated against May 2021 USEPA Regional Screening Levels (RSLs) for industrial soil. The soil data were also compared to residential soil RSLs to evaluate an unlimited use/unrestricted exposure scenario, which generally is the level at which all human exposure pathways present an acceptable level of risk for all land uses. However, future residential use of the former Launch Area is not considered a realistic or reasonable scenario based on the current land use and ownership, proximity to the Hamburg Landfill, and presence of historic underground silos.

Groundwater analytical data were evaluated against May 2021 USEPA Tapwater RSLs. This is a conservative comparison given that groundwater at the former Launch Area is not currently used, and is unlikely to be used in the future, as a drinking water source. Potable water is supplied to the former Nike Battery areas and nearby residents by the Erie County Water Authority, which receives surface water from Lake Erie and the Niagara River.

As discussed below, the data collected during the RI field investigation did not reveal impacts associated with past DoD-related activities and confirmed that no revision was needed to the site boundary. Therefore, the data collected are sufficient to complete the RI without the need for additional investigation.

Soil

Only metals and PAHs were present in the soil samples at concentrations exceeding the USEPA industrial RSLs (**Tables 4-2a, 4-2b, 4-2c**; **Figures 4-6a, 4-6b, 4-7a, 4-7b**). Further, these compounds were ubiquitous throughout the investigation area and they were also detected in the reference soil samples (**Tables 4-3a, 4-3b**; **Figure 4-8**). These data, combined with the fact that there are no localized areas of relatively elevated concentrations, indicate that the site soils have not been impacted by DoD-related activities and that no additional investigation of soil is required.

Groundwater

In groundwater, VOCs, composed primarily of benzene and ethylbenzene, were detected at concentrations exceeding the USEPA Tapwater RSL at only three locations (**Table 4-4a**; **Figure 4-9a**). Based on their isolated nature and location/distance from former DoD activity areas, these concentrations are not indicative of a release to the environment associated with past DoD activities.

Concentrations of SVOCs in groundwater exceeding the USEPA Tapwater RSL were detected at five locations (**Table 4-4b**; **Figure 4-9b**). However, these concentrations were within an order of magnitude of the RSLs and, based on their isolated nature and location/distance from former DoD activity areas, are not indicative of a release to the environment associated with past DoD activities.

Numerous metals were detected in groundwater at concentrations greater than the USEPA Tapwater RSLs in both the total and dissolved samples (**Table 4-4c**; **Figure 4-9c**). However, the same metals were detected in locations upgradient from the DoD activity areas as well as downgradient from those locations. Many of these metals (i.e., iron, manganese, aluminum) are ubiquitous in groundwater throughout the region.

In addition, storage, handling, and use of highly soluble road salts by the Town of Hamburg's Highway Department on and adjacent to the former Launch Area appears to have impacted groundwater, resulting in elevated concentrations of sodium, potassium, calcium, and magnesium in groundwater that is characteristic of typical road salts (i.e., sodium chloride [NaCl], potassium chloride [KCl], calcium dichloride [$CaCl_2$], and magnesium chloride [$MgCl_2$]). These road salts, when introduced into the soil at high concentrations, will displace other metals sorbed to clays and other charged surfaces or bound to organic matter. The result is elevated levels in the soil of both the road salts and the metals mobilized by the road salts then leaching to the groundwater at levels above expected background. Sodium, the most common element of the road salt used, is present in the groundwater at levels as much as 100-times higher than expected for groundwater in this area (USGS OFR 2013-1095). Because the use of these road salts varies year-to-year, and the relative mobility of the metal ions varies based on their individual geochemical characteristics, the relationship between individual road salts to other metals present in the groundwater in the Launch Area is complex. Although the relationship between these metals is complex, there is a significant correlation between calcium from the road salt and manganese concentrations in groundwater, and magnesium from the road salt and manganese concentrations in groundwater. Based on the distribution of metals throughout the site, and given the use of the former Launch Area as a town maintenance facility for more than 50 years, the metals detected in groundwater are related to storage of road salt at the site and are not indicative of a release to the environment associated with past DoD activities.

Baseline Risk Assessment Results

A baseline risk assessment (BRA) was conducted for the former Launch Area consistent with the approach outlined in the RAWP (JV 2020). The BRA included both a human health risk assessment (HHRA) and a screening level ecological risk assessment (SLERA) and was performed using the soil and groundwater data collected during the RI. The risk assessments followed appropriate guidelines from the USEPA and USACE.

The objectives of the HHRA were to evaluate potential human health risks and provide a basis for deciding if remedial action is necessary to protect human health. Exposure scenarios based on the current and most likely future industrial land use (i.e., current/most likely future scenarios) included indoor commercial/industrial worker exposure to surface soil, outdoor maintenance worker exposure to surface soil, and construction/utility worker exposure to surface and subsurface soil and shallow (i.e., overburden) groundwater. The potential for vapor intrusion from overburden groundwater to indoor air of on-site buildings was also evaluated, and no volatile constituents in overburden groundwater were detected at concentrations greater than commercial vapor intrusion screening levels (VISLs) associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient (HQ) of 0.1 (USEPA 2021c). The potential for vapor intrusion from overburden groundwater to indoor air of off-site nearby residences was evaluated, and benzene in a single overburden well at the former Launch Area was detected at concentrations greater than residential VISLs (based on 1×10^{-6} cancer risk or 0.1 HQ). However, no further evaluation was conducted because only two of the ten benzene concentrations in the selected overburden monitoring wells exceeded the residential VISL, and the maximum detected concentration was twice the residential VISL based on 1×10^{-6} excess lifetime cancer risk (ELCR), indicating that the estimated residential cancer risk (2×10^{-6}) would be within the USEPA and NCP acceptable ELCR range of 1×10^{-6} to 1×10^{-4} (i.e., 1E-04 to 1E-06) (USEPA 1990). Although potable water is supplied to the former Nike Battery areas and nearby residents by the Erie County Water Authority, there are no restrictions that would limit future use of the surficial aquifer as a drinking water source. Therefore, a hypothetical future potable use scenario was evaluated for on-site commercial/industrial workers and off-site residents.

The HHRA results indicated that for all current/most likely future on-site exposure scenarios, non-cancer hazards are less than 1 and are therefore acceptable, and ELCRs are less than or within the acceptable risk range of 1×10^{-4} to 1×10^{-6} (**Exhibit 6-1**). For the hypothetical future potable use scenarios, non-cancer HIs exceed 1 and ELCRs are within (for the commercial/industrial worker) or exceed (for the resident) the risk range of 1×10^{-4} to 1×10^{-6}. The potential for cancer risk to an off-site resident from hypothetical future potable use of groundwater is from benzene and bis(2-ethylhexyl)phthalate. The potential for non-cancer hazard is predominantly due to benzene, bis(2-ethylhexyl)phthalate, and thallium in groundwater.

Benzene was detected in 8 of the 39 groundwater samples, at concentrations ranging from 0.33 to 210 micrograms per liter (µg/L), however the second highest concentration is 11 µg/L. Benzene concentrations exceeded the Tapwater RSL at three locations (MW-4, MW-5, and MW-9). Benzene was not detected (< 0.500 µg/L) in upgradient groundwater samples. The sporadic nature of the benzene detections in groundwater is not indicative of a widespread release. Benzene is widely distributed in the environment and can be released to soils through multiple sources including gasoline leaks (Agency of Toxic Substances and Disease Registry [ATSDR] 2007). Once in the environment, benzene is subject to volatilization, photooxidation (on the surface), and biodegradation (ATSDR 2007). Given the time (more than 50 years) since the DoD activities at the site and benzene's fate and transport characteristics, the presence of benzene in groundwater is likely not associated with historical DoD activities at the former Launch Area.

bis(2-Ethylhexyl)phthalate was infrequently detected in groundwater and a single concentration at one location (MW-4) exceeds the Tapwater RSL. bis(2-Ethylhexyl)phthalate was also detected in upgradient groundwater at an estimated concentration of 2.2 µg/L. A review of lab reports for a subset of the highest bis(2-

ethylhexyl)phthalate results in soil indicated results were biased high with potential for lab contamination. The USEPA (1989) notes that phthalate esters are considered common laboratory contaminants. Similarly, bis(2-ethylhexyl)phthalate is found in many consumer products, including tablecloths, shower curtains, furniture and automobile upholstery, garden hoses, floor tiles, sheathing for wire and cable, and food packaging materials (National Center for Biotechnology Information 2021). ATSDR (2007) reported an estimate that 92% of U.S. domestic supplies of bis(2-ethylhexyl)phthalate are released to landfills (USEPA 1981 as cited in ATSDR 2007). Similar to benzene, biodegradation is an important fate process for bis(2-ethylhexyl)phthalate in water and soil, albeit slower in soil (ATSDR 2007). Given the time (more than 50 years) since the DoD activities at the site, the multitude of potential sources, and the fate and transport characteristics of bis(2-ethylhexyl)phthalate, this contaminant is likely not associated with historical DoD activities.

Thallium was detected in half of the overburden and bedrock groundwater samples. However, concentrations in only two samples exceeded the background value of 0.82 µg/L. The HHRA likely overestimated the thallium exposure concentration because a maximum of 1.4 µg/L was used to evaluate the potable use scenario, and the mean of detected thallium concentrations is 0.32 µg/L. Thallium in the environment may be a result of coal use and/or emissions, and its previous use at the site has not been reported. Additionally, given the use of the former Launch Area as a town maintenance facility for more than 50 years, thallium is not likely attributable to historical DoD activities at the former Launch Area.

Although the habitat characterization identified the former Launch Area as highly disturbed with marginal habitat, a SLERA was performed to evaluate the likelihood of adverse ecological effects occurring as a result of exposure to constituents associated with the former Launch Area. Potential risks to ecological receptors were evaluated by comparing soil data from areas of the site with potential habitat to conservative ecotoxicological benchmarks. The SLERA results indicate that on site habitat does not support abundant and diverse populations of wildlife, and potential risk for populations of ecological receptors (plants, soil invertebrates, birds, and mammals) is limited.

Recommendations

The results from the HHRA indicate that no response action is required to be protective of human health. Similarly, the results from the SLERA indicate that the habitat at the former Launch Area is limited, and the potential for ecological exposure is expected to be low. Therefore, the findings of the RI support the conclusion that no further investigative or remedial actions are required for the former Nike Battery Launch Area.

1 Introduction

The Seres-Arcadis 8(a) Joint Venture (JV), LLC (hereafter referred to as the JV) has prepared this Remedial Investigation (RI) Report on behalf of the United States (U.S.) Army Corps of Engineers (USACE) to document the activities and results of a Comprehensive Environmental Response, Compensation, and Liability Act-(CERCLA-) compliant RI at the former Launch Area of the former Nike Anti-aircraft Missile Battery BU-51/52 (Nike Battery), a Formerly Used Defense Site (FUDS), located in Hamburg, Erie County, New York. The USACE oversees the FUDS program. The Nike Battery designated FUDS project number is D01MA002207. This RI Report has been prepared in accordance with the following:

- U.S. Environmental Protection Agency (USEPA) Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA (USEPA 1988);
- Engineer Regulation (ER) 200-3-1 – Environmental Quality FUDS Program Policy (USACE 2004).

RI field work was conducted in accordance with the field investigation procedures presented in the Final Uniform Federal Policy for Quality Assurance Project Plan, Remedial Investigation, Nike Anti-aircraft Missile Battery BU-51/52 (JV 2020; herein referred to as Final RI QAPP), with exceptions noted herein.

The JV performed this RI under Hazardous Toxic and Radioactive Waste (HTRW) Architect-Engineer Services Indefinite Delivery/Indefinite Quantity Contract No.: W912WJ-19-D-0004, Task Order (TO) W912WJ19F0123. This TO was issued and is being administered by USACE, New England District (CENAE) including overall project management, stakeholder coordination, and regional support. The work conducted under this TO falls under the Defense Environmental Restoration Program (DERP) – FUDS Program. In addition, 29 Code of Federal Regulations (CFR) 1910.120 applies to actions taken at this site. The Nike Battery environmental investigation activities were performed under the CERCLA as amended by the Superfund Amendments and Reauthorization Act and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) to the maximum extent practical and pursuant to ER 200-3-1, dated May 10, 2004.

1.1 Purpose

The overall goals of the RI were to:

- Gather sufficient information to assess and delineate the nature and extent of impacts (if present) in soil and groundwater from Department of Defense (DoD) activities in the Launch Area of the former Nike Battery.
- Collect data sufficient to evaluate potential risks to human health and the environment.
- Collect data sufficient to meet USACE and regulatory requirements and support remedial alternative decisions, if needed, for the former Nike Battery Launch Area.

1.2 Site Background

1.2.1 Site Location

The Nike Battery is located on Lakeview Road in Erie County, Hamburg, New York, approximately 5 miles southeast of Lake Erie (**Figure 1-1**). The layout of the Nike Battery is shown on **Figure 1-2**. The Town of Hamburg is the current owner of the Nike Battery (USACE 1991).

This RI Report focuses on the former Launch Area of the Nike Battery, which the Town of Hamburg's Highway Department currently uses for office space, truck garage space, and storage of gravel piles and road salt. In addition, the area was observed during the September 2020 site visit to be used for accumulation of household hazardous waste (i.e., paint cans) and electronic waste (i.e., televisions). The former Launch Area is bound on the north by Interstate 90; on the west by the Easement Area; on the east by residential areas; and on the south by residential areas, Lakeview Road, and Eighteen Mile Creek. The closest residential housing is located approximately 500 feet to the south on Lakeview Road. A closed and capped landfill, formerly operated by the Town, is located north of and adjacent to the former Launch Area.

Figure 1-3 provides historical site features of the former Launch Area from the period of DoD ownership. **Figure 1-4** provides current features of the Nike Battery under ownership of the Town of Hamburg. The former Launch Area is a FUDS-eligible HTRW project.

1.2.2 Historical Information

During the Cold War, the U.S. Army developed the Nike anti-aircraft missile to protect population centers and important industrial and military installations (Hamburg Historical Society 2019). Between December 1955 and May 1956, the DoD acquired approximately 57 acres by various deeds and condemnation proceedings and 95 acres in easements to develop the Nike Battery, which operated from 1956 until its closure in 1961 (USACE 1991). During that period, the former battery consisted of a Launch Area, a Control Area, and an Easement Area. The Launch Area contained the facilities and equipment required to assemble, test, and maintain the missiles and launchers. The approximately 150-acre former Nike Anti-aircraft Missile Battery BU-51/52 property was roughly rectangular in shape, trending southwest-to-northeast.

The former Launch Area contained a total of 60 Nike Ajax supersonic missiles, which were stored horizontally in six underground silos (also known as magazines; Hamburg Historical Society 2019). Based on historical information, typical Nike Ajax missile silos were up to approximately 20 feet deep; however, as noted below, the silos at this site could not be directly observed during this study as they had been filled with crushed asphalt by the Town of Hamburg. Above ground, there were four launchers per silo. The missiles were brought to the surface by an elevator and then attached, via a system of rails, to a launcher (Hamburg Historical Society 2019). The aboveground components of the silos have been demolished, and the subsurface elements of the silos were recently filled with asphalt road filings by the Town (Communication with Darren Smith, Town of Hamburg Deputy Highway Superintendent, September 10, 2019).

The Control Area contained the electronic equipment for target tracking, missile guidance, and missile fire control. The purpose of the Easement Area was to maintain line of sight distance between the Control Area and Launch Area. The Control Area and Easement Area are located northeast of the former Launch Area and are currently used as the Town of Hamburg's Lakeview Recreational Area including a playground, sledding hill, ball fields, and a BMX (bicycle off-road racing and trick riding) track. Neither the Control Area nor the Easement Area are FUDS-eligible.

The DoD also used a sewage treatment plant located on the southern side of North Creek Road (**Figure 1-3**). During the course of the RI, it was discovered that the treatment system is active and has been used by the Town of Hamburg since it was acquired from the DoD. As such, is not possible to distinguish impacts from the DoD versus the Town. The Town's beneficial re-use of the sewage treatment plant renders it ineligible under FUDS and the sewage treatment plant was not assessed in this RI (JV 2020).

On June 1, 1965, the DoD transferred the Nike Battery property to the General Services Administration (GSA; USACE 1991). In 1968, GSA conveyed the 57 acres to the Town of Hamburg, New York (USACE 1991).

A closed and capped landfill, constructed and formerly operated by the Town, is located adjacent to the former Launch Area. The Town of Hamburg began operating the Hamburg Landfill in 1970. The landfill is not FUDS-eligible because it was constructed and operated by the Town of Hamburg after the Nike Battery closure. The Hamburg Landfill is identified as Site 915097 in the State of New York's Inactive Hazardous Waste Site ('State Superfund') Program. The landfill was permitted "under New York Codes, Rules and Regulations Part 360 for trash, rubbish, construction and demolition (C&D) material, and other non-putrescible, non-industrial wastes" (New York State Department of Environmental Conservation [NYSDEC] 2017). Empty and partially empty drums may have been illegally dumped at the landfill, some of which contained potentially hazardous wastes (NUS Corporation 1987). The landfill was closed in 1984 and covered with approximately 2 feet of soil. According to NYSDEC, the landfill is not a health risk for residents because access is restricted; however, Town of Hamburg employees could be exposed to contaminated groundwater and soil if the landfill is disturbed. Improvements were made to the landfill cap in 2008 (GZA Environmental [GZA] 2018).

The Town of Hamburg police department uses the area formerly occupied by the enlisted men's barracks along the northwestern property boundary for the special weapons and tactics (SWAT) team activities, and as a firearm training center. This includes a small arms range with an earthen backstop berm (**Figure 1-4**). As shown on Figure 1-4, the wellhead from a former natural gas production well is still present in the eastern portion of the former Launch Area. This well is not active.

1.2.3 Previous Investigations

Previous investigations have been conducted at the former Launch Area, former Control Area, Easement Area, and Hamburg Landfill. However, because the focus of this RI is the former Launch Area, the discussion below is limited to previous investigations of this area and nearby residences along Lakeview Road.

1.2.3.1 1989 Confirmation Study and Contamination Evaluation

In 1988, Metcalf & Eddy (M&E) conducted an Inventory Phase Investigation for USACE, Kansas City District for the former Nike Battery (Launch Area only). The investigation included: 1) a site visit to collect background information and to determine sampling locations; 2) installation of four monitoring wells; 3) sampling and analysis of groundwater, soil, silo water, and tank oil to evaluate the potential for contamination at the Nike Battery; and 4) evaluation of physical and analytical data (M&E 1989).

Because no records of spills during operation and maintenance of the Nike BU-51/52 Site were found, the Contamination Study evaluated general disposal practices at Nike sites to determine which contaminants could potentially be attributed to Nike BU-51/52. The general disposal practices were compiled from documents that cited interviews with former Nike workers and from Nike Operations Manuals. In general, Nike sites handled, stored and disposed of missile fuels and components as well as used solvents, fuels, hydraulic fluids, and paint. Based on the known general disposal practices at Nike sites, M&E analyzed groundwater, silo water, and soil samples for volatile organic compounds (VOCs), total petroleum hydrocarbons (TPH), and total metals (M&E, 1989).

Methylene chloride and acetone were the only VOCs detected in the soil samples, but the presence of these compounds was not believed to be related to past DoD activities. Metals detected in soil included arsenic, barium,

cadmium, chromium, lead, and selenium. Arsenic and chromium exceeded industrial RSLs but were below the concentrations of metals reported in Concentrations of Selected Analytes in Rural New York State Surface Soils: A Summary Report on the Statewide Rural Surface Soil Survey (NYSDEC 2005). Cadmium, lead, and selenium were detected above Eco-SSLs, but below the concentrations of metals detected during the Statewide Rural Surface Soil Survey (NYSDEC 2005). Groundwater results were compared to USEPA Maximum Contaminant Levels (MCLs) and NYSDEC Class GA Groundwater Standards in force at the time of the M&E Study in 1989. Arsenic, cadmium, and lead exceeded the MCLs in groundwater and silo water samples.

The Contamination Evaluation (M&E 1989) noted that the potential for chromium and lead contamination at Nike sites is well documented. While chromium was not detected above reference criteria, it was detected in both groundwater and silo water. Chromium is a constituent of cleaning reagents that are used to remove corrosion from metal. Chromium and lead are both constituents of paint that was used on military installations. Lead is the primary constituent in battery electrolyte for storage batteries (M&E 1989).

The Contamination Evaluation also noted that past DoD activity may be responsible for the chromium and lead, but the source of the arsenic, barium, and cadmium was not clearly defined (M&E 1989).

1.2.3.2 1991 Inventory Project Report

In 1991, USACE New York District conducted a site survey of the Nike Battery to assess the presence of unsafe debris, hazardous waste impacts, and unexploded ordnance and completed an Inventory Project Report (INPR). The INPR determined that based on the historical DoD use, the Nike Battery was FUDS-eligible. The INPR recommended that an underground storage tank (UST) located at the site be properly abandoned, with soil excavation as necessary under New York State (NYS) Petroleum Bulk Storage Regulations, that monitoring wells previously installed by M&E for USACE be resampled to confirm the presence of metals in groundwater, and a risk assessment be performed. Specifically, the INPR Findings and Determination of Eligibility sheet proposed a public health assessment to determine the risk to public health from contamination at the site resulting from DoD activity. The INPR further recommended that the assessment should include resampling of groundwater and silo water to confirm elevated levels of metals, and address other potential sources of contamination (USACE 1991).

1.2.3.3 1999 NYSDEC UST Removal

In 1999, the NYSDEC opened spill number 987548 due to sheen observed in soil during excavation of two USTs from the Nike Battery by the Town of Hamburg. The Town removed a 550-gallon UST from the former Launch Area and an 8,000- to 9,000-gallon UST from the former Control Area (GZA 1999). Both USTs historically contained petroleum products, and petroleum-impacted soil from the excavation area was disposed off-site.

1.2.3.4 1999 Environmental Study, Nike Base/Hamburg Landfill

In 1999, the Town of Hamburg hired GZA to conduct a records search and media sampling at the former Nike Battery Launch, Control, and Easement Areas and the Hamburg Town Landfill. The results of their records search indicated four areas of concern:

- Former Launch Area, including the acid neutralizing pit; aboveground storage tanks (ASTs); USTs; septic system and leach field; and potential contamination in former missile silos.
- Easement Area: potential for oil, pesticides, and herbicide contamination

- Former Control Area: ASTs, USTs, septic system and leach field, and dry wells
- Inactive Landfill: Alleged illegal drum disposal in the 1970s, and burning of flammable, combustible, and hazardous material from the production of urethane foam in 1983.

GZA collected 36 surface soil, 18 subsurface soil, and 11 groundwater samples throughout the Nike Battery in two sampling rounds. In addition, surface water and sediment samples were collected from 14 locations and air samples from three locations (GZA 1999). Consistent with the 1989 results, arsenic and chromium in surface soil samples exceeded industrial RSLs but were below the concentrations of metals reported in the Statewide Rural Surface Soil Survey (NYSDEC 2005). Thallium was detected in one surface soil sample collected downgradient of the former Launch Area, and the thallium concentration exceeded the 2019 USEPA industrial soil Regional Screening Level (RSLs). Thallium was not detected at sufficient frequency to be included in the rural soil survey (NYSDEC 2005). Thallium was not detected in subsurface soil or groundwater. High concentrations of benzene and ethylbenzene were noted in a groundwater sample collected from GZA-MW-4 located downgradient of a suspected fuel tank (GZA 1999). High concentrations of cadmium, manganese, and total cyanide were noted in well ME-MW-2.

1.2.3.5 1999 Results of Groundwater Sampling of Neighboring Wells

In 1999, the New York State Department of Health (NYSDOH) sampled nine residential sumps and wells near the former Launch Area (NYSDOH 1999). Samples were analyzed for VOCs, semi-volatile organic compound (SVOCs), and metals. Benzene, toluene, ethylbenzene, and xylenes (BTEX) and metal concentrations were detected above regulatory limits or applicable screening levels at the Lakeview Road residences of Dr. Donald Hellert and Mr. Robert Martin, located immediately south of the site. Groundwater VOC concentrations were above regulatory limits or applicable screening levels at sample location BW-1. Groundwater metal concentrations were above regulatory limits or applicable screening levels at sample locations BW-1 (Robert Martin property) and DW-1 (Donald Hellert property).

1.2.3.6 1999 Soil and Groundwater Quality Investigations of Lakeview Properties

Based on the NYSDOH sampling results, Dr. Donald Hellert and Mr. Robert Martin hired Mr. Thomas Hellert, hydrogeologist, to investigate soil and water quality on their two Lakeview Road properties (Hellert 1999). Results of the groundwater analysis indicated the presence of ethylbenzene and xylenes, 2-butanone, and acetone at concentrations above NYSDEC Class GA criteria in groundwater. Metals detected in groundwater at concentrations above NYSDEC criteria included arsenic, beryllium, cadmium, chromium, lead, nickel, and zinc. The two surface soil samples exhibited arsenic, beryllium, cadmium, chromium, lead, nickel, and zinc concentrations above the NYSDEC criteria for soil.

1.2.3.7 2000 Site Investigation, Former Nike Battery BU-51/52

In 2000, Battelle conducted a site investigation (SI) at the former Launch Area for CENAE to determine the presence and magnitude of subsurface contamination and to look for evidence of southward migration of contaminants from the site. Battelle installed and sampled three soil borings at the former Launch Area and four monitoring wells at nearby residences on Lakeview Avenue. Samples were analyzed for metals, VOCs, and SVOCs. Soil samples were also analyzed for TPH (Battelle 2000a). Of the 15 metals detected in subsurface soil, only concentrations of arsenic, chromium, and thallium exceeded 2019 USEPA industrial soil RSLs. Concentrations of arsenic and thallium in soil samples from the former Launch Area were in the same order of

magnitude as those from nearby residences. Groundwater analytical results indicated that 15 of 23 metals were detected; however, arsenic and chromium (found in soil) were not among the detected metals in groundwater. Thallium concentrations in groundwater exceeded the 2019 USEPA Tapwater RSL but were less than the MCL. Barium was present at concentrations that exceeded the 2019 USEPA MCL in the groundwater samples from MW-4 (installed at a nearby residence; Battelle 2000a). Although barium is a component of tracer ammunition, it is not a component of munitions associated with Nike Anti-Aircraft Missiles. However, it is a component of numerous metals alloys and road salts/brines and, as noted in this report, both scrap metals and road salts are stored at the site by the Town of Hamburg Highway Department. Barium is also a component of fluorescent light bulbs, which may have been components of municipal waste placed in the landfill located at the site. Benzene was the only VOC present at concentrations that exceeded the MCL, with the highest concentration in GZA-MW-4 (Battelle 2000a).

Battelle concluded that the levels of contamination of subsurface soil and groundwater were low at the perimeter of the former Launch Area. They also concluded that hydrazine (a component of rocket fuel) was detected only in samples near the perimeter of the former Launch Area and not in residential soil. Battelle recommended completion of a screening level human health risk assessment (HHRA) to confirm the low likelihood of adverse impacts.

1.2.3.8 2000 Screening Level Human Health Risk Assessment

The HHRA performed by Battelle (2000b) evaluated potential risks to Lakeview Road residents south of the former Launch Area from exposure to DoD-related chemicals in soil, groundwater, and sump water. Results of five independent investigations previously conducted by the State of New York and independent entities were used for the public health risk assessment. Constituents of potential concern (COPCs) in soil included cadmium, nickel, thallium, zinc, hydrazine, and TPH. All volatile chemicals detected in soil, groundwater, and sump water were retained as COPCs for the vapor migration to indoor air evaluation; only the adult indoor air exposure through vapor intrusion was evaluated (e.g., inhalation of indoor air for children and shower inhalation were not evaluated). Total cancer risks for residential exposures to soil (dermal contact, incidental ingestion, and vegetable consumption) based on the maximum and average detected concentrations were less than the USEPA's acceptable risk range of 1×10^{-6} to 1×10^{-4}, and non-cancer hazard indices (HIs) were below 1. Inhalation risks and hazards for adult residential vapor intrusion exposure to volatile constituents in soil, groundwater, and sump water were also less than 1×10^{-6} and 1, respectively. The assessment concluded that the risks and hazards were within acceptable ranges, indicating that adverse health effects to residents near the former Launch Area were unlikely.

1.2.3.9 2003 Amendment to INPR

An amendment to the INPR, issued in October 2003, recommended a Potentially Responsible Party (PRP)/HTRW project to "investigate the use of the USTs at the property subsequent to DoD ownership…" (USACE 2003a). Subsequently, the USTs were removed from the former Control Area; all required cleanup was completed, and the HTRW project was closed.

1.2.3.10 2003 NYSDEC UST Removal

In 2003, four additional USTs were removed from the former Control Area (two 2,000-gallon USTs and two 4,000-gallon USTs) under NYSDEC spill number 0375052. Petroleum-impacted soils from the excavation area and the USTs were disposed off site (USACE 2003b).

1.2.3.11 2018 Records Review and Site Visit

In June 2018, Bluestone, CENAE, and Avatar Environmental, LLC (Avatar)] conducted a site visit at the former Nike Battery to collect information for development of a sampling/investigation plan for HTRW contamination that may or may not require removal/remedial action, with a goal to close the Site from DoD liability. The records review and site visit memorandum noted that the team visited the former Launch Area as well as a wetland mitigation pond, the former Control Area, and the Twin Ponds Area (Bluestone 2018)..

1.3 Report Organization

This RI Report is prepared consistent with Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA (USEPA 1988). Specifically, this report includes the following:

- **Section 1: Introduction** – presents the purpose of the project and report with a description of work authorization, an overview and history of the site being addressed, previous investigations, and organization of the report.
- **Section 2: Physical Characteristics** – discusses the general site characteristics, including climate, geology, hydrology, natural resources, and surface features.
- **Section 3: Remedial Investigation Field Work** – details the approach, methods, and procedures used to characterize potential contaminants.
- **Section 4: Remedial Investigation Results and Conceptual Site Model** – summarizes the results of the RI and presents the updated physical Conceptual Site Model (CSM).
- **Section 5: Nature and Extent of Contamination** – discusses the nature and extent and fate and transport of contaminants in the environment.
- **Section 6: Baseline Risk Assessment** – presents the human health and ecological exposure models and assesses potential human health and ecological risks.
- **Section 7: Summary of Results** – presents the RI summary and conclusions.
- **Section 8: References** – identifies references cited in the RI Report.

831 The following appendices supplement the results reported in this document:

- **Appendix A** **Habitat Assessment Photographs**
- **Appendix B** **Daily Field Reports**
- **Appendix C** **Data Validation Reports**
- **Appendix D** **Water Well Survey**
- **Appendix E** **Well Construction Logs**
- **Appendix F** **Well Decommissioning Reports**
- **Appendix G** **Well Development Logs, Sampling Logs, and Hydraulic Conductivity Graphs**
- **Appendix H** **Investigation Derived Waste Disposal**
- **Appendix I** **Risk Assessment Guidance for Superfund (RAGS) Part D Tables and ProUCL Output**
- **Appendix J** **Background Soil Data Evaluation: BTVs and Hypothesis Tests**

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2 Physical Characteristics of the Site

This section presents a discussion of the physical characteristics of the former Nike Battery site, including the site climate, hydrology, and geology, along with site habitat, including habitat cover types and ecological resources. Cultural and archaeological resources are also presented along with current land use.

2.1 Climate

The site is located in Erie County, New York. Erie County is located on the eastern shore of Lake Erie and is characterized by moderately warm summers and bitterly cold winters. Cold winds in the winter typically prevail from the northwest in the Great Lakes region, producing dramatic lake-effect snowfalls on the southern and eastern shores of the Great Lakes. Total annual rainfall precipitation averages approximately 41 inches for Erie County. The average annual snowfall is approximately 92 inches, with the heaviest accumulations typically falling between December and March. In the warmer months of July and August, 79 degrees Fahrenheit (°F) is the normal high temperature. The colder months of January and February have a normal low temperature of 25°F (National Center for Environmental Information [formerly National Climatic Data Center] NCEI; 2021).

2.2 Current Land Use and Surface Features

The former Nike Battery is currently owned by the City of Hamburg and is publicly accessible. The current and foreseeable future land use for the former Launch Area located at the south end of the former Nike Battery is industrial. The former Launch Area is currently used by the Town of Hamburg's Highway Department for office space, truck garage space, and storage of gravel piles and road salt. The Town of Hamburg police department uses the area of the former enlisted men's barracks along the northwestern property boundary as a firearm training center (**Figure 1-4**). A sewage treatment facility, consisting of subsurface tanks and infiltration beds, is located to the south of the former Launch Area across Lakeview Road. The treatment system, which was once used by the DoD, is active and has been used since the Town acquired the property from the DoD.

Groundwater at the former Launch Area is not currently used, and is unlikely to be used in the future, as a drinking water source. Potable water is supplied to the former Nike Battery areas and nearby residents by the Erie County Water Authority, which receives surface water from Lake Erie and the Niagara River.

The former Launch Area is bounded on the north by Interstate 90; on the east by the Easement Area; on the west by residential areas; and on the south by residential areas, Lakeview Road, and Eighteen Mile Creek. The closest residential housing is located approximately 500 feet to the south on Lakeview Road. There are no state or federally designated wildlife refuges or recreational areas on or adjacent to the former Nike Battery Launch Area.

2.3 Site Hydrology

The former Launch Area is highly disturbed with little native vegetation. There is a small manmade drainage swale along the northwestern border of the former Launch Area that collects runoff during periods of heavy rainfall and snowmelt (**Figure 1-4**). The drainage swale extends approximately 450 feet into a small patch of phragmites/wetland area to the west of the silo area. The below-ground silos of the former Nike Battery are in an area currently used by the Town of Hamburg Highway Department for staging of materials. The silos have been

backfilled with asphalt millings; however, the concrete pads are still visible in some areas and the ground surface around some of the silos has collapsed/settled over time leaving open holes/depressions.

Surface water at the former Launch Area flows into a manmade drainage ditch that drains the perimeter of the former Town landfill, then traces the southwest and southeast sides of the silo area (**Figure 1-4**). This manmade ditch drains east to a second ditch that discharges to Eighteen Mile Creek, located 200 feet south of the former Launch Area boundary. Eighteen Mile Creek flows westward approximately 6 miles to Lake Erie (Foster 1999). Natural surface water drainage at the former Launch Area emanates from an area northeast of the landfill and flows along the western landfill boundary. All other surface water drainage is controlled by manmade ditches.

Other surface water features exist outside of the site boundary. The Highway Department constructed a bermed stormwater retention basin (referred to as a wetlands mitigation pond in the 2018 Records Review and Site Visit memorandum [Bluestone 2018]) approximately 800 feet northeast of the former Launch Area (**Figure 1-4**). State and federally regulated wetlands are present off site, and are shown on **Figure 2-1**. Much of the off-site areas north and upgradient of the former Launch Area are wetlands. The closest mapped wetlands are freshwater forested/shrub and freshwater emergent with two freshwater ponds located approximately 400 feet northwest and upgradient of the former Launch Area. The freshwater forested/shrub wetland category consists of woody wetlands, forested swamp, or shrub bogs. Freshwater emergent wetlands are described as herbaceous marsh, fen, swale, and wet meadow.

2.4 Site Geology and Hydrogeology

2.4.1 Geology

The former Launch Area is approximately 5 miles southeast of Lake Erie (**Figure 1-1**). The area surrounding the former Launch Area is characterized by a relatively flat land surface that slopes gently toward Lake Erie. Elevation at the site ranges from approximately 770 feet above mean sea level (amsl) to 755 feet amsl. Based on literature, native overburden materials in the area composed of interlaminated silt and clay derived from proglacial lake deposits (Rickard and Fischer 1970, Niagara Sheet). The proglacial lake sediments were deposited over shales of the Upper Devonian West Falls Group (Rickard and Fisher 1970). West Falls shale in the vicinity of the former Launch Area consists of two members: the Angola Member, which overlies the Rhinehart Member. Both members are described as a black and gray shale and light gray siltstone and sandstone with a thickness from 400 to 520 feet (LaSala 1968). The unit dips gently southward.

The RI field investigation showed that the overburden in the former Launch Area is composed primarily of fill materials (i.e., gravel, cinders, millings) combined with reworked native overburden materials. The thickness of the fill/disturbed overburden ranges from 2 to almost 10 feet, depending on the location. Below the fill, native silts and clays are found in some locations, all of which are underlain by weathered shale ranging from 2 to 8 feet in thickness. Competent bedrock is encountered generally within 12 to 17 feet bgs and is composed of gray to brown shale with frequent horizontal bedding plane fractures (locally) that decrease with depth. The shale is characterized by petroleum odors which are associated with naturally-occurring regional natural gas deposits.

2.4.2 Hydrogeology

Based on the results of previous investigations and those of the RI (discussed herein), groundwater at the former Launch Area ranges from approximately 4 to 16 feet below ground surface (bgs) (depending on surface topography) in the overburden and flows south and eastward from the former Launch Area toward Eighteen Mile Creek. Overburden groundwater is generally present at the weathered bedrock interface between the overburden materials and the competent shale bedrock. Based on hydraulic conductivity conducted during the RI, the average hydraulic conductivity of the overburden materials is on the order of 1×10^{-3} centimeters per second (cm/s), which is consistent with the fine sand or silt observed in the majority of the overburden well screen intervals. With one exception, which was caused by low recovery, the groundwater elevations in the paired overburden and bedrock monitoring wells installed during the RI were similar, indicating that the two units are hydraulically connected with little vertical flow between them. Based on previous investigations, and the RI results discussed herein, overburden and bedrock groundwater at the former Launch Area flow to the east and south toward Eighteen Mile Creek.

2.5 Natural Resources

A habitat assessment of the former Launch Area was conducted on May 19, 2020 to support the preparation of the screening level ecological risk assessment (SLERA; see **Section 6.2**). The purpose of the habitat characterization was to document ecological habitat, identify potential ecological receptors, and evaluate the potential for ecological exposure to site impacts. Natural communities were characterized using the New York Natural Heritage Program's (NHP's) Ecological Communities of New York State (Edinger et al. 2014). Representative photographs from the habitat assessment are included in **Appendix A**.

Observations from the habitat characterization verified that much of the area is covered with asphalt, concrete, and buildings, and these areas do not represent habitat for ecological receptors. The habitat cover types of the former Launch Area and adjacent areas were classified in accordance with the Ecological Communities of New York State (Edinger et al. 2014). The major cover types identified on site (and in the immediate vicinity) include residential/commercial/industrial, successional southern hardwood forest, successional old field, and emergent wetlands. The closest mapped wetlands are freshwater forested/shrub and freshwater emergent with two freshwater ponds located approximately 400 feet northwest and upgradient of the former Launch Area. Due to the proximity of human activities and the degree to which the area has been reworked, ecological receptors using these areas of the site are likely limited.

The manmade drainage ditches within the former Launch Area are relatively small (typically 1 to 2 feet wide), periodically maintained through mowing and cleanout, and expected to only intermittently contain surface water. Therefore, these drainage ditches are unlikely to support aquatic species such as fish. The manmade drainage ditches may support semi-aquatic invertebrates (e.g., frogs) on a seasonal basis; however, the habitat is relatively poor.

The habitat assessment identified a list of wildlife species observed or expected to occur. As expected, very few wildlife species were observed within the boundary of the former Launch Area due to the lack of habitat in most areas and high level of nearby human disturbance (e.g., the area east of the site is a recreational playing field maintained with regular mowing). In adjacent areas with potential habitat (e.g., forested areas north of the site boundaries), a variety of species or evidence (e.g., scat and/or tracks) thereof were observed, including birds (American robin, blue jay, Canada goose, mourning dove) and mammals (grey squirrel, raccoon, coyote, red fox).

Wildlife, such as the species observed, may occasionally traverse or forage onsite. No reptiles/amphibians were observed on site, which is expected given the lack of permanent surface water bodies within the former Launch Area. However, reptiles/amphibians (although not observed during the wildlife survey) may use the intermittent surface water in the manmade drainage ditches as seasonal habitat and may be occasionally present onsite.

A review of state and federally listed threatened and endangered species that may occur near or on the site indicated that the federally listed threatened northern long-eared bat may be present within Erie County, New York. Based on observations from the habitat assessment, habitat for the northern long-eared bat is not likely because forested habitat found to provide adequate summer roosting habitat is limited. In addition, nine migratory birds were identified under the Birds of Conservation Concern designation to potentially occur within Erie County seasonally. Of the nine listed, six are shore birds or raptors, which prefer habitat with more surface water features. There are no permanent surface water features on the site.

The additional three migratory bird species include bobolink, red-headed woodpecker, and wood thrush. The redheaded woodpecker and wood thrush prefer mature trees and forest in which to forage and breed, while the bobolink prefers hayfields and meadows. The site is characterized by mostly disturbed habitat and maintained mowed lawn; therefore, it is unlikely to find these species at the site due to a lack of suitable habitat. In addition to the federal database query, a New York State Natural Heritage Request was submitted on May 12, 2020. On June 12, 2020, the NHP responded that there were no records of rare or state-listed animals or plants or significant natural communities at the site or in its immediate vicinity. Given the overall lack of habitat across most of the former Launch Area, the presence of threatened and endangered species or critical habitat is not expected.

2.6 Cultural and Archaeological Resources

Previous investigations at the Nike Battery did not indicate evidence that culturally-sensitive sites are located within the area surrounding the former Launch Area and no indications of cultural or archeological resources were observed during the RI field activities.

3 Remedial Investigation Field Work

This section summarizes the field investigation activities conducted at the former Nike Battery Launch Area. All field activities were conducted in accordance with Final RI QAPP (JV 2020), except where exceptions are noted herein.

RI field activities began at the former Launch Area on July 27, 2020 and continued intermittently until March 5, 2021. Daily field reports with photographs detailing work completed (**Appendix B**) were provided to the USACE Project Manager for RI field activities conducted between July 27 and September 30, 2020. **Appendix B** also includes daily tailgate forms. **Exhibit 3-1** below summarizes the general timeframe of onsite activities. Specific field activities are discussed in the following sections.

Exhibit 3-1: Timeline of Field Activities

Field Activity	Schedule	Onsite Personnel
Mobilization and Utility Clearance	July 27 to 29, 2020	JV and New York Leak Detection
Monitoring Well Installation	August 10 to September 10, 2020	JV and Nothnagle Drilling USACE (August 18-20, 2020)
Well Decommissioning	September 4 and September 17, 2020	JV and Nothnagle Drilling
Soil Boring and Reference Sampling	September 11 to 17, 2020	JV and Nothnagle Drilling
First Groundwater Sampling Event	September 21 to 30, 2020	JV
Survey	October 26 to 30, 2020	JV and KHEOPS
Second Groundwater Sampling Event	December 14 to 18, 2020	JV
Slug Testing	March 3 to 5, 2021	JV

3.1 Overview of Sample Collection, Analysis, and Validation

In accordance with the Final RI QAPP (JV 2020), the RI field activities were intended to determine the nature and extent of impacts associated with the former Launch Area to support human health and ecological risk assessment.

Solvents, corrosion preventives, and petroleum, oil, and lubricants (POL) were commonly used during the operations of a typical Nike Missile Battery Launch Area. **Exhibit 3-2**, below, summarizes the potential sources of environmental contamination and associated classes of constituents based on historical DoD activities at the former Launch Area. As presented in the Final RI QAPP, Launch Area sampling locations were placed in potential historical DoD source areas.

Exhibit 3-2: Potential Sources and Classes of Constituents

Potential Source Products [1]	Potential Source Historical Infrastructure [2]	Associated Classes of Constituents
•Missile components •Liquid fuels •Oils (hydraulic & motor) •Chlorinated solvents •Missile starter fluid •Rocket propellants •Paint	•Missile assembly and test building •Drum storage area •Generator building •Acid storage shed •Acid fueling stations •Acid neutralization pits •Missile silos	•VOCs •SVOCs •Hydrazine •PCBs •Petroleum compounds •Metals

Notes:
1. Based on general historical disposal practices across Nike sites, as documented in historical interviews with former Nike workers and Nike operation manuals.
2. As identified by previous investigations and assessments.

As discussed below, as part of the RI field activities, discrete soil (surface and subsurface) and reference soil (surface and subsurface) samples were collected from predetermined locations selected to support a statistically valid sampling approach. Additionally, 21 monitoring wells were installed at the site, and groundwater samples were collected during two sampling events. **Figure 3-1** and **Figure 3-2** present the groundwater monitoring well and soil locations, respectively, from which samples were collected in the former Launch Area.

Surface soil, subsurface soil, and groundwater samples collected per the approved Final RI QAPP were sent to Katahdin Analytical Services of Scarborough, Maine (Katahdin) for the following analyses:

- VOCs by USEPA SW-846 Method 8260C;
- SVOCs by USEPA SW-846 Method 8270D;
- PAHs by USEPA SW-846 Method 8270D Selected Ion Monitoring (SIM)
- TAL metals by USEPA SW-846 Method 6010C/7471 (soil) and total and dissolved metals by USEPA SW-846 Method 6020/7470 (groundwater);
- Hydrazine by USEPA SW-846 Method 8315A;
- Hexavalent chromium by USEPA SW-846 Method 7196 or 7196A;
- Total organic carbon (TOC) by Lloyd Khan Method;
- Total solids by Method SM2540B;
- Hardness;
- Grain size by ASTM International (ASTM) D422;
- pH;
- Polychlorinated biphenyls (PCBs) by USEPA SW-846 Method 8082A.

Laboratory analytical methods were selected to meet the data quality objectives (DQOs) identified in the Final RI QAPP (JV 2020). The soil and groundwater sample analytical results are discussed in **Section 4.1**, and laboratory reports are available in the FUDS Chemical Database (FUDSChem) library. The JV provided data reporting elements for definitive data per Section I.13.4.2 of EM 200-1-3 and provided quality control (QC) of the various analytical tasks performed. An independent third-party firm conducted 100 percent data validation as specified in the Final RI QAPP. Data validation reports are provided in **Appendix C**.

The following field QC samples were collected in accordance with the Final RI QAPP Worksheet #20: Field QC Sample Quantities and Control Frequencies:

- Field duplicate samples (FD designation);
- Trip blank;
- Equipment blanks;
- Matrix spike (MS) samples;
- Matric spike duplicate (MSD) samples.

3.2 Ecological Habitat Assessment

An ecological habitat assessment was conducted at the site on May 19, 2020, to characterize habitat for the development of cover type maps and to conduct an ecological receptor survey.

The major cover types identified on site (and in the immediate vicinity) include residential/commercial/industrial, successional southern hardwood forest, successional old field (i.e., previously cleared land that is now undergoing the regrowth of vegetation), and emergent wetlands. The closest mapped wetlands are freshwater forested/shrub and freshwater emergent with two freshwater ponds located approximately 400 feet northwest and upgradient of the former Launch Area. Due to the proximity of human activities and the degree to which the area has been reworked, ecological receptors using these areas of the site are likely limited.

While on site, the field team also confirmed that there are no permanent on-site surface waters (including vernal pools) and verified that surface water and sediment sampling are not required for the RI. The drainage ditches within the former Launch Area are relatively small (typically 1 to 2 feet wide), periodically maintained through mowing and cleanout, and expected to only intermittently contain surface water. Therefore, these drainage ditches are unlikely to support aquatic species such as fish. The drainage ditches may support semi-aquatic species (e.g., frogs) on a seasonal basis; however, the habitat is relatively poor.

The habitat assessment identified a list of wildlife species observed or expected to occur. As expected, very few wildlife species were observed within the boundary of the former Launch Area due to the lack of habitat in most areas and high level of nearby human disturbance.

A review of state and federally listed threatened and endangered species that may occur near or on the site indicated that the federally listed threatened northern long-eared bat may be present within Erie County, New York. Based on observations from the habitat assessment, habitat for the northern long-eared bat is not likely because forested habitat found to provide adequate summer roosting habitat is limited. Given the overall lack of habitat across most of the former Launch Area, the presence of threatened and endangered species or critical habitat is not expected.

The results from the habitat assessment were presented to the USACE in a memorandum, which was provided as Appendix B of the Remedial Investigation Field Report, Former Nike Anti-Aircraft Missile Battery, BU-51/52 Launch Area, Erie County, New York (JV 2021). The results of the ecological habitat assessment are described in the SLERA (**Section 6.2**).

3.3 Residential Wells Survey

An online search of the NYSDEC Water Well Information website found 12 well records in the Town of Hamburg. None of the 12 wells were within 1-mile of the Nike Battery, which is outside the influence of groundwater discharging from the property. There were no former or current water supply wells found at the former Nike Battery site. As a note, the New York Department of Health website for water well guidance recommends a minimum separation distance between water wells and known contaminant sources between 25 to 300 feet plus additional 50% for shallow aquifer wells. The findings of the water well search are presented in **Appendix D**. In addition, a visual survey of the adjacent residential properties was conducted from publicly accessible areas (i.e., roadways) and/or from the Town of Hamburg property in August 2020. There were no visual indications of the presence of residential water wells noted during the survey.

3.4 Mobilization/Site Preparation

Between July 27 and 29, 2020, the JV escorted New York Leak Detection to perform utility clearance at proposed boring locations using the methods of ground-penetrating radar, tracing, and visual inspection of overhead utilities and surface utility infrastructure. New York Leak Detection marked out utilities within a 15-foot radius of all proposed subsurface sampling locations.

3.5 Monitoring Well Installation and Soil Sampling

3.5.1 Monitoring Well Installation

Between August 10 and September 10, 2020, 21 monitoring wells were installed by Nothnagle Drilling, Inc., with JV oversight including 16 overburden wells with bedrock wells co-located at five locations.

The 16 overburden monitoring wells were drilled using 6-inch-inner-diameter hollow-stem augers. Each well was logged by the field geologist in accordance with Unified Soil Classification System (USCS) methodologies. Identification of weathered bedrock was based on the presence of structure/bedding indicative of the source rock. Each well was screened from the bottom of the boring using 10 feet of 2-inch-inner-diameter, machine-slotted polyvinyl chloride (PVC) 0.010-inch screen and constructed in accordance with the procedures presented in the Final RI QAPP. The five bedrock wells drilled adjacent to five overburden wells were installed using HQ™ core barrel for the bedrock portion of the well down to the first water-bearing zone. Rock was characterized for geology and rock quality (i.e., rock quality designation [RQD]) and evaluated to quantify the magnitude of fractures. Bedrock monitoring wells were completed with screens because the competency of the shallow bedrock was unknown.

Air was monitored around the drilling area in accordance with the NYSDEC-required Community Air Monitoring Plan. The monitoring did not detect elevated readings of VOCs or particulates during drilling. Olivia Beaulieu of

USACE was present on site from August 18 through August 20, 2020 to observe the on-site activities. Monitoring well locations are presented on **Figure 3-1**.

The rationale for the monitoring well locations is provided in **Exhibit 3-3** below.

Exhibit 3-3: Rationale for Monitoring Well Locations

Downgradient of landfill

- *Northwest side of site*
  - NHLA-MW1BR / NHLA-MW1OB
  - NHLA-MW9BR / NHLA-MW9OB
  - NHLA-MW10
- *Along south perimeter swales*
  - NHLA-MW6
  - NHLA-MW14*
  - NHLA-MW15
- *Along southwest perimeter swales*
  - NHLA-MW7BR / NHLA-MW7OB
  - NHLA-MW8
  - NHLA-MW13

Historical activity / former structure

- *Missile Assembly and Test Building*
  - NHLA-MW2
  - NHLA-MW3
- *Drum and material storage area*
  - NHLA-MW4BR / NHLA-MW4OB
  - NHLA-MW14*
- *Former enlisted men's barrack*
  - NHLA-MW5BR / NHLA-MW5OB
- *Former transformer pad area*
  - NHLA-MW11

Structure

- *Active salt storage area*
  - NHLA-MW12

Upgradient of site

- *Reference area*
  - NHLA-MW16

Notes:

* indicates monitoring well NHLA-MW14 listed twice to present all rationale for location.

Monitoring wells were installed in accordance with the provisions of the Final RI QAPP, and as referenced therein, the USACE EM 1110-1-4000 Monitoring Well Design, Installation, & Documentation (1998), and QAPP Appendix E Standard Operating Procedure (SOP): Monitoring Well Installation.

Well construction boring logs are provided in **Appendix E**. **Table 3-1** provides a summary of monitoring well construction, including location coordinates, finished depths, screening intervals, and top of casing elevations.

3.5.2 Soil Sampling

During installation of the 16 overburden wells, a total of 43 soil samples (including field duplicate samples; MW designation) were collected using either a decontaminated stainless steel hand auger or split-spoon sampler and then transferred to a laboratory-supplied container.

In accordance with the Final RI QAPP and the requirements of the FUDSChem database, soil sample depths were designated in the sample name using the following nomenclature:

- A: Surface samples were collected from the top 1 foot of native material.
- B: Depth of 1 to 3 feet below surface soil sample depth.
- C: Highest indication of contamination or just above first water-bearing zone if no indication of contamination.

Subsurface soil sample depths are summarized in **Table 3-2**. Soil samples were collected, labeled, stored, and shipped to Katahdin for analysis.

As presented in the Final RI QAPP, soil samples collected during monitoring well installation were analyzed for the following parameters:

- Target Compound List (TCL) VOCs;
- TCL SVOCs;
- PAHs;
- PCBs (NHLA-MW11 only);
- Hydrazines;
- TAL metals;
- TOC;
- Grain size distribution;
- pH;
- Hexavalent chromium.

3.6 Surface and Reference Soil Sampling

In addition to soil samples collected during monitoring well installation, between September 11 and 17, 2020, surface soil samples were collected within the former Launch Area, and reference soil samples were collected within the Nike Battery but outside the former Launch Area.

3.6.1 Surface Soil Sampling

A total of 10 discrete surface samples (SL designation; eight parent and two field duplicate) were collected from the top 1 foot of native material (i.e., not composed of current ground cover such as gravel, asphalt, or cinders/mulch) from eight different locations to evaluate the potential risks to site users associated with surface soil exposure. The eight locations were chosen based on historical activities at the site, and included

boring/monitoring well locations and the former transformer area. **Exhibit 3-4** below summarizes the surface soil sample locations and the rationale for the locations of collection. Soil sampling locations are presented on **Figure 3-2**. Surface soil samples were collected, labeled, stored, and shipped to Katahdin for analysis in accordance with the procedures presented in the Final RI QAPP.

As presented in the Final RI QAPP, surface soil samples were analyzed for the following parameters:

- TCL VOCs;
- TCL SVOCs;
- PAHs;
- PCBs (NHLA-SL11A and NHLA-SL11B only);
- Hydrazines;
- TAL metals;
- TOC;
- Grain size distribution;
- pH;
- Hexavalent chromium.

Exhibit 3-4: Rationale for Former Launch Area Surface Soil Sampling Locations

Downgradient of landfill	
	• *West side of site, associated with drainage swale from landfill* • NHLA-SL29
Historical activity / former structure	
	• *Vicinity of the the Generator Building and Missile Assembly and Test Building* • NHLA-SL25 • NHLA-SL26 • NHLA-SL27 • NHLA-SL28 • *Former transformer pad area* • NHLA-SL11A • NHLA-SL11B
Potential habitat area	
	• *Potential habitat area not covered by historical or proposed sample locations* • NHLA-SL31

3.6.2 Reference Soil Sampling

To evaluate naturally occurring and/or anthropogenic background conditions, 35 reference soil samples (BH designation) were collected from 16 predetermined locations. The use of, and rationale for, the collection of the reference samples was presented in Worksheets 11 (Section 11.1 #5 – Decision Rule) and 17 (Section 17.1), and Appendix C (Risk Assessment Work Plan) of the Final RI QAPP (JV 2020). Reference sample locations were selected in consultation with the USACE from within the former Nike complex (former Control/Easement Area), but outside of the former Launch Area, to provide soil that represents the regional soil types found within the former Launch Area. A more distant reference area was not selected because adjacent highways and dissimilar land uses would make the data less comparable to true site background conditions.

As noted above, the Reference Area is located in what was formerly the Control Area for the battery - immediately northeast of the former Launch Area. This area is now part of a recreational area redeveloped, and currently used, by the Town for walking trails and athletic fields. According to historic data on the Nike missile sites, Nike batteries typically had three operating areas: the Control Area, the Launch Area, and an Administration Area. The Administration Area was usually located within the Control Area. The Control Area and the Launch Area were constructed at least 1,000 yards apart, but were within sight of each other. The Control Area generally included equipment for target tracking and missile guidance. The Launch Area included facilities for assembly, testing, and missile maintenance and launching. Support facilities such as motor pools, generator buildings, guard dog kennels, and living quarters were also located in the Launch Area (Federation of American Scientists 2018). Therefore, given the lack of alternate locations, and since the Control Area did not support missile operation and maintenance facilities, this area was deemed to represent a usable reference data set for purposes of this RI. As discussed herein and presented in Appendix E, native soils observed in the reference samples were similar to those encountered in the former Launch Area.

The reference soil samples were analyzed for TAL metals, hexavalent chromium, and polycyclic aromatic hydrocarbons (PAHs). The site-specific reference soil data were gathered for comparison against sample concentrations in the former Launch Area and were used to calculate background threshold values (BTVs) as described in **Section 4.3.3**. A subset of samples was evaluated for grain size using ASTM Method D422 (without hydrometer). A top reference sample was collected from 0 to 1-foot bgs (Depth A designation) and a bottom sample was collected from 1 to 3 feet bgs (Depth B designation). Based on the lithology and characteristics of the subsurface materials encountered, the reference samples appeared to be representative of the site soils (i.e., generally described as silt and clay with some gravel).

Soil sampling locations are presented on **Figure 3-2**. Reference soil samples were collected, labeled, stored, and shipped to Katahdin for analysis in accordance with the procedures presented in the Final RI QAPP.

As presented in the Final RI QAPP, reference samples were analyzed for the following parameters:

- TAL metals;
- Hexavalent chromium;
- PAHs.

3.6.3 Well Decommissioning

From September 4 through September 17, 2020, Nothnagle Drilling, Inc. decommissioned four historical monitoring wells (GZA-MW-1, GZA-MW-2, GZA-MW-4, and ME-MW-3) in accordance with the NYSDEC CP-43:

Monitoring Well Decommissioning Policy (NYSDEC 2009). Each well was decommissioned by tremie-grouting from the bottom up using a cement-bentonite grout, then removing the surface casing and concrete pad. These were the only four of the seven historic monitoring wells located during site reconnaissance. The well decommissioning reports are included in **Appendix F**.

3.7 Survey

Between October 26 and 30, 2020, locations of monitoring wells and soil sampling locations were located by KHEOPS, a NYS Professional Surveyor control using the New York State Plane Coordinate West Zone and the North American Datum of 1983 for the horizontal datum and North American Vertical Datum of 1988 (NAVD 88) for the vertical datum. Monitoring well measuring point elevations were measured to the nearest 0.010-foot NAVD 88. KHEOPS also completed a boundary survey of the property based on the existing record information and deed for the property that the site occupies. Coordinates for monitoring wells are included in **Table 3-1**. The surveyed coordinates for the surface soil sample locations are summarized in **Table 3-3**. Relevant site features such as buildings were also included in the survey.

3.8 Groundwater Sampling

3.8.1 Development of Wells and First Groundwater Sampling Event (September 2020)

The 21 newly installed monitoring wells were developed before sampling using the methodology outlined in the USACE guidance document EM 1110-1-4000 Monitoring Well Design, Installation and Development (1998), as provided in the Final RI QAPP. This involved the use of alternating sequences of surging and pumping using a Waterra foot-valve pumping system, surge block, and submersible pump. Specific capacity and field parameter (pH, conductivity, and turbidity) measurements were used to gauge the progress of the development. The development water was containerized in drums and labelled pending waste characterization. Before sampling, it was confirmed that the volume of water purged during development of bedrock wells exceeded the volume of water lost during bedrock well installation.

Groundwater was allowed to equilibrate after well development, and between September 21 and 30, 2020, groundwater samples were collected from the 21 monitoring wells (**Figure 3-1**).

A low-flow purging/sampling method (using a flow-through cell, multimeter, and a peristaltic pump) was used to collect the groundwater samples. Water quality parameters, including temperature, conductivity, turbidity, pH, oxidation-reduction potential (ORP), salinity, and dissolved oxygen (DO), were measured during low-flow purging in accordance with the Final RI QAPP.

There were no odors, sheens, or other indications of contamination noted during the sampling.

Groundwater samples were collected directly into laboratory-supplied sample containers, labeled, stored, and shipped to Katahdin for analysis in general accordance with the procedures presented in the Final RI QAPP. High turbidity in samples clogged field filters; therefore, samples were filtered at the laboratory to remove suspended solids in preparation for the dissolved metals analyses. Deviation from sampling methods is discussed further in **Section 3.12.2.** Monitoring well development and sampling logs are presented in **Appendix G**.

As presented in the Final RI QAPP, groundwater samples were analyzed for the following parameters:

- VOCs by USEPA SW-846 Method 8260C;
- SVOCs by USEPA SW-846 Method 8270D;
- PAHs by USEPA SW-846 Method 8270D Selected Ion Monitoring (SIM);
- TAL total and dissolved metals by USEPA SW-846 Method 6020/7470;
- Hexavalent chromium by USEPA SW-846 Method 7196 or 7196A;
- Hardness.

3.8.2 Second Groundwater Sampling Event (December 2020)

A second groundwater sampling event was conducted between December 14 and 18, 2020. Water level measurements were recorded at all locations before groundwater sampling. Consistent with the first round of sampling, a low-flow purging/sampling method (using a flow-through cell, multimeter, and a peristaltic pump) was used to collect the samples. Water quality parameters, including temperature, conductivity, turbidity, pH, ORP, salinity, and DO, were measured during sampling.

There were no odors, sheens, or other indications of contamination noted during the sampling.

Groundwater samples from the second monitoring event were collected directly into laboratory-supplied sample containers, labeled, stored, and shipped to Katahdin for analysis in accordance with the procedures presented in the Final RI QAPP. Samples to be analyzed for dissolved metals were field filtered to remove suspended solids. Monitoring well sampling logs are presented in **Appendix G**.

3.9 Water Level Measurement

Before collection of groundwater samples during the first and second rounds of groundwater sampling, water levels in all wells were measured during the same day using a combination electronic water level and oil-water interface probe. Water level measurements are summarized in **Table 3-1**.

3.10 Hydraulic Conductivity Testing

Hydraulic conductivity testing was performed by slug testing conducted in five wells from March 3 through 5, 2021. In accordance with the Final RI QAPP (JV 2020), the testing was performed on the following overburden wells:

- NHLA-MW2;
- NHLA-MW6;
- NHLA-MW5OB;
- MHLA-MW-8;
- NHLA-MW16.

The wells are located across the former Launch Area with one well located in the Reference Area. In general, within the former Launch Area, NHLA-MW2 is on north side, NHLA-MW6 is in the central area, and NHLA-MW5OB is on the east side, MHLA-MW-8 is on the southwest side. NHLA-MW16 is located within the Reference

Area. Falling head and rising head tests were performed on each well in accordance with the Final RI QAPP (JV 2020). Each well was tested by adding a weighted, decontaminated, slug (a solid PVC pipe) to displace water into the formation. After the water level returned to static level, the slug was removed quickly, and the rising water levels were recorded (rising head test). For the falling head test portion, a slug was quickly added to the well and the falling water levels were recorded. A down-hole pressure transducer was used to measure the water levels.

3.11 Investigation-Derived Waste

Soil cuttings from all drilling locations were contained in steel 55-gallon drums, labeled, and staged at the facility at a location approved by Town of Hamburg Highway Department personnel. In addition, well development and purge groundwater from the September 2020 well development/sampling event was contained in steel 55-gallon drums, labeled, and staged at the same location.

Prior to the second groundwater sampling event, the drummed groundwater generated during well development and during the December 2020 sampling event were analyzed for waste characterization. The results of these characterization samples indicated that the purge water was non-hazardous and did not contain elevated concentrations of contaminants of concern. Based on these results, in accordance with the email approval received from the NYSDEC on December 14, 2020 (NYSDEC 2020), the drummed groundwater, along with the purge water from the second groundwater sampling, was discharged to the ground surface at a slow rate to vegetated areas away from monitoring wells. Representative samples from the drummed soil cuttings were also collected and submitted for laboratory analysis. The results of these characterization samples indicated that the soil cuttings were non-hazardous and did not contain elevated concentrations of contaminants of concern. The soil remaining after decanting the 34 groundwater drums was disposed off-site, along with 22 drums of soil cuttings from borings, at a permitted facility in accordance with federal, state, and local regulations. The soil and water waste characterization results, waste profile, and waste disposal manifest are included in **Appendix H**.

3.12 Deviations from the Final RI QAPP

RI field activities were completed in 2020 in accordance with the Final RI QAPP (JV 2020), except for the deviations described below. These sampling deviations from the Final RI QAPP had no impact on the usability of the data generated or on the investigation results because the final sampling dataset met project requirements as stated in the Final RI QAPP and the project completeness goal of 90 percent.

3.12.1 Samples Not Collected

The following samples were not collected:

- Location NHLA-MW17 was removed from the scope of work, as Rick Nowak of the Town of Hamburg Buildings and Grounds Department confirmed that the wastewater treatment plant (WWTP) has been in use by the Town since taking ownership of the property from the DoD. Therefore, it is not possible to distinguish whether potential impacts from the WWTP occurred during operation of the WWTP by the DoD or by the Town. Per the FUDS Program Policy, ER 200-3-1, Section 3-2.6.1, the Town's operation of the sewage treatment system for the past 61 years renders possible impacts from the sewage plant ineligible for evaluation under the FUDS program.

- Discretionary surface soil samples were not needed based on the results of the habitat assessment, which has been documented separately (Appendix B of the RI Field Report [JV 2021]).
- Surface samples (0 to 1-foot bgs) were not collected from locations NHLA-MW11A, -SL17, -SL18, -SL19, -SL20, -SL21, -SL22, -SL23, -SL24, and -SL30 due to the presence of asphalt and/or the absence of native material at these locations.

3.12.2 Monitoring Well Development

Specific capacity data could not be collected in most instances due to the inability to draw down the water level in the well. In addition, in most cases, well development volumes exceeded 40 well volumes with little to no change in turbidity levels, but with stabilization of all other parameters and no visible sediment in the well. Therefore, that supporting data was used to judge development success.

3.12.3 Deviations from Sampling Methodology

During the first groundwater sampling event, groundwater collected using low flow sampling methods from the monitoring wells was observed to have high suspended solids. The increased turbidity resulted in premature clogging of the 0.45 micron in-line filters used to filter groundwater for the dissolved metals analyses. Extra purging of each well in conjunction with using multiple in-line filters was not possible due to low recovery. As a result, the samples were collected in unpreserved sample containers and submitted to the laboratory for filtration and analysis. Proper filtration for dissolved metals analyses is necessary to avoid biased results associated with high turbidity. Turbidity levels were lower during the second groundwater sampling event and dissolved metals samples were collected using in-line filters per the QAPP.

3.13 Remedial Investigation Field Activities Documentation

During the RI field activities, site conditions and observations were noted in the field notebook and on the field forms. Copies of the Daily Field Reports with photographs and completed daily tailgate forms for RI field activities conducted between July 27 and September 30, 2020 are included in **Appendix B**.

4 Remedial Investigation Results

4.1 Geology

Subsurface geological features interpreted from the RI field investigation are summarized on **Figure 4-1** (cross-section locations), **Figure 4-2** (Cross-Section A-A'), and **Figure 4-3** (Cross-Section B-B'), and in the boring logs presented in **Appendix E**. As shown on **Figures 4-2** and **4-3**, the RI field investigation found that the overburden in the former Launch Area is composed primarily of fill materials combined with reworked native overburden materials consisting of silts and clays. The nature of the reworked native overburden materials was similar in the reference area soil borings (BH36 through BH51) to those encountered in the former Launch Area (where reworked native soils were present). The thickness of the fill/disturbed overburden ranges from 2 to almost 10 feet, depending on the location. Below the fill, native silts and clays are found in some locations, all of which are underlain by weathered shale ranging from 2 to 8 feet in thickness. Competent bedrock is encountered generally within 12 to 17 feet bgs and is composed of gray to brown shale with frequent horizontal bedding plane fractures (locally) that decrease with depth. The shale is characterized by petroleum odors which are associated with naturally-occurring regional natural gas deposits.

4.2 Hydrogeology

The water table at the former Launch Area ranges from approximately 4 to 16 feet bgs, depending on the surface topography, but is generally encountered within 10 feet of the ground surface across the majority of the site. As shown on **Figures 4-2** and **4-3**, as well as the well construction logs in **Appendix E**, the overburden monitoring wells are screened in the weathered bedrock, which reflects the field observation that groundwater is generally present at the weathered bedrock interface between the overburden materials and the competent shale bedrock. With the exception of bedrock monitoring well MW-05BR, groundwater was encountered in the bedrock groundwater monitoring wells within 10 feet of the competent bedrock interface. At MW-05BR groundwater was not encountered until approximately 25 feet below the competent bedrock. Groundwater at this location did not recharge significantly between the September and December 2020 sampling events. With the exception of MW-05BR, which exhibited very low recovery, the groundwater elevations in the paired overburden and bedrock monitoring wells installed during the RI were similar, indicating that the two units are hydraulically connected with little vertical flow between them.

4.2.1 Groundwater Flow

Figures 4-4 and **4-5** present potentiometric surface contours for the overburden and bedrock groundwater during the September 2020 and December 2020 groundwater monitoring events, respectively. As shown on these figures, groundwater in both the overburden and bedrock generally flows south and eastward from the former Launch Area toward Eighteen Mile Creek.

4.2.2 Hydraulic Conductivity and Travel Time

The results of the hydraulic conductivity testing are presented in **Table 4-1 and Appendix G**. As shown in the table, the average hydraulic conductivity of the overburden materials is on the order of $1x10^{-3}$ centimeters per second (cm/s), which is consistent with the fine sand or silt observed in the majority of the overburden well screen

intervals. Using this value, and a hydraulic gradient that ranges from approximately 0.010 foot per foot (ft/ft) to 0.003 ft/ft in the overburden, the average linear groundwater flow velocity in the overburden groundwater at the former Launch Area is approximately 12 to 40 feet per year (ft/y).

4.3 Sampling Results

The following sections provide a summary of the analytical results for RI groundwater and soil sampling conducted at the former Launch Area and presents the number of samples exceeding screening levels. Sample locations in the former Launch Area were selected to identify potential impacts from historical activities and current structures, and considered spatial location relative to the landfill and groundwater flow direction. Analytical data from reference soil samples are similarly screened and summarized below. Reference soil samples were collected from areas near the former Launch Area to evaluate potential naturally occurring and/or anthropogenic background conditions. The Reference Area was proximate to the site area to provide soil that represents the regional soil types found within the former Launch Area. The laboratory analytical reports for the 2020 RI samples are available in the FUDSChem library. Data validation reports for the 2020 data are provided in **Appendix C**. The 2020 dataset is considered usable and meets project DQOs with the minor exceptions summarized in **Appendix C**.

For human health, regulatory benchmarks and risk-based screening levels include the May 2021 USEPA RSLs for Residential Soil and May 2021 USEPA RSLs for Tapwater (USEPA 2021). The comparison to residential soil RSLs is conservative given that future residential use of the former Launch Area is not considered a realistic or reasonable scenario based on the current land use and ownership, proximity to the Hamburg Landfill, and presence of historic underground silos. Residential soil RSLs are considered to evaluate an unlimited use/unrestricted exposure scenario and to inform risk management decisions, if needed. Similarly, the comparison of groundwater data to Tapwater RSLs is conservative given that groundwater at the former Launch Area is not currently used, and is unlikely to be used in the future, as a drinking water source. The Tapwater RSLs are considered to inform risk management decisions, if needed. The RSLs protective at a cancer risk level of 1×10^{-6} or a non-cancer HQ of 0.1 were used. Data tables and figures presented in **Section 4** show the comparisons of detected concentrations to the human health screening values (i.e., the RSLs). The screening of site data against human health benchmarks is described in the following sections.

For ecological receptors, screening levels are based on the hierarchy of the USEPA (2007a) ecological soil screening levels (EcoSSLs), then USEPA Region IV soil ecological screening values (ESVs) (USEPA 2018), and then screening benchmarks from the Department of Energy Laboratories (Los Alamos National Laboratory [LANL] 2017). The surface and subsurface soil results were not initially screened with ecological screening criteria to evaluate nature and extent since only a subset of the soil sample locations represent areas of potential habitat. Instead, the soil data are screened for potential ecological risks in the SLERA (see **Section 6.2**).

4.3.1 Soil

Former Launch Area

A total of 53 soil samples (including field duplicate samples) were collected from various depths within the former Launch Area during the RI field activities: 43 surface/subsurface samples (sample ID MW designation) and 10 surface samples (sample ID SL designation).

In accordance with the Final RI QAPP (JV 2020) and the requirements of the FUDSChem database, soil sample depths were designated in the sample name using the following nomenclature:

- A: Surface samples were collected from the top 1 foot of native material.
- B: Depth of 1 to 3 feet bgs, or the 2-foot interval immediately below the surface soil sample depth.
- C: Highest indication of contamination or just above first water-bearing zone if no indication of contamination.

In the former Launch Area, soil samples were collected from the following depths:

- Depth A: 26 samples
- Depth B: 19 samples
- Depth C: eight samples.

Table 3-2 summarizes the actual sample collection depths for the soil samples.

Reference Area

A total of 35 soil samples (including field duplicate samples) (sample ID BH designation) were collected from various depths at 16 predetermined locations within the former Nike Battery, but outside the former Launch Area activities. The reference soil samples were collected from locations immediately northeast of the former Launch Area (see Section 3.6.2) in an area currently used for recreational purposes.

In the Reference Area, soil samples were collected from the following depths:

- Depth A: 17 samples,
- Depth B: 18 samples

Analytical results for soil samples collected in the former Launch Area are summarized in **Table 4-2a** (VOCs/PCBs), **Table 4-2b** (SVOCs), and **Table 4-2c** (metals). Analytical results for reference samples are summarized in **Table 4-3a** (metals) and **Table 4-3b** (PAHs). As described above, the soil sample analytical results were screened against 2021 USEPA residential and industrial RSLs.

Comparison to Risk-based Screening Levels

Exceedances of human health screening criteria for surface and subsurface soil in the former Launch Area (MW designation samples) are presented on **Figure 4-6a** (PAHs) and **Figure 4-6b** (metals). Exceedances of human health screening criteria for surface soil in the former Launch Area (SL designation samples) are presented on **Figure 4-7a** (PAHs) and **Figure 4-7b** (metals). Exceedances of human health screening criteria for reference surface soil are presented on **Figure 4-8** (metals).

The surface and subsurface soil results were not initially screened with ecological screening criteria to evaluate nature and extent since only a subset of the soil sample locations was identified as potential habitat. Consequently, the soil locations that represent potential habitat are included in the SLERA and the results of the soil data screened with ecological criteria are discussed in detail in **Section 6.2**.

4.3.1.1 Volatile Organic Compounds

Former Launch Area

In the 53 soil samples analyzed for 51 VOCs, 12 VOCs were detected in one or more samples. Five VOCs were detected in the Depth A samples, 11 VOCs were detected in the Depth B samples, and seven VOCs were detected in the Depth C samples. None of the VOC concentrations exceeded the USEPA residential or industrial RSLs.

Reference Area

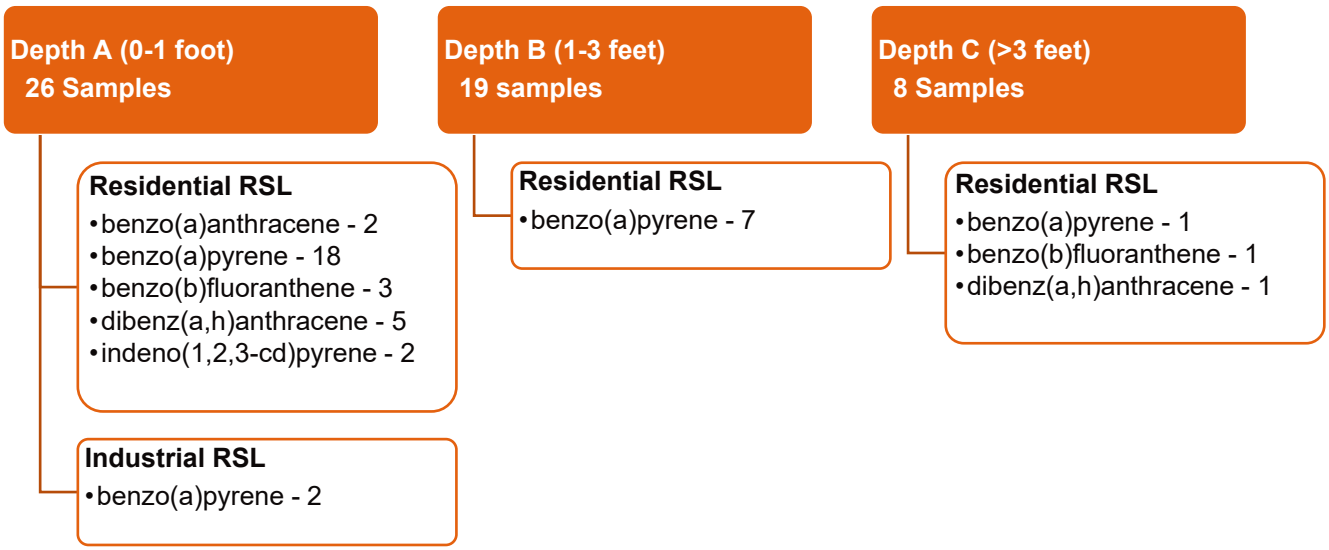
Reference soil samples were not analyzed for VOCs.

4.3.1.2 Semi-Volatile Organic Compounds and Polycyclic Aromatic Hydrocarbons

Former Launch Area

In the 53 soil samples analyzed for the list of 70 SVOC analytes, 24 SVOCs were detected in at least one sample, and 5 of the 24 SVOCs (all PAHs) exceeded screening criteria. **Exhibit 4-1** summarizes the number of samples with detected concentrations of PAHs that exceeded USEPA residential and/or industrial RSLs for the following sample depth intervals. **Figures 4-6a** and **4-7a** show concentrations of the PAHs at the locations with exceedances.

Exhibit 4-1: PAH RSL Exceedances in Former Launch Area Soil Samples



Reference Area

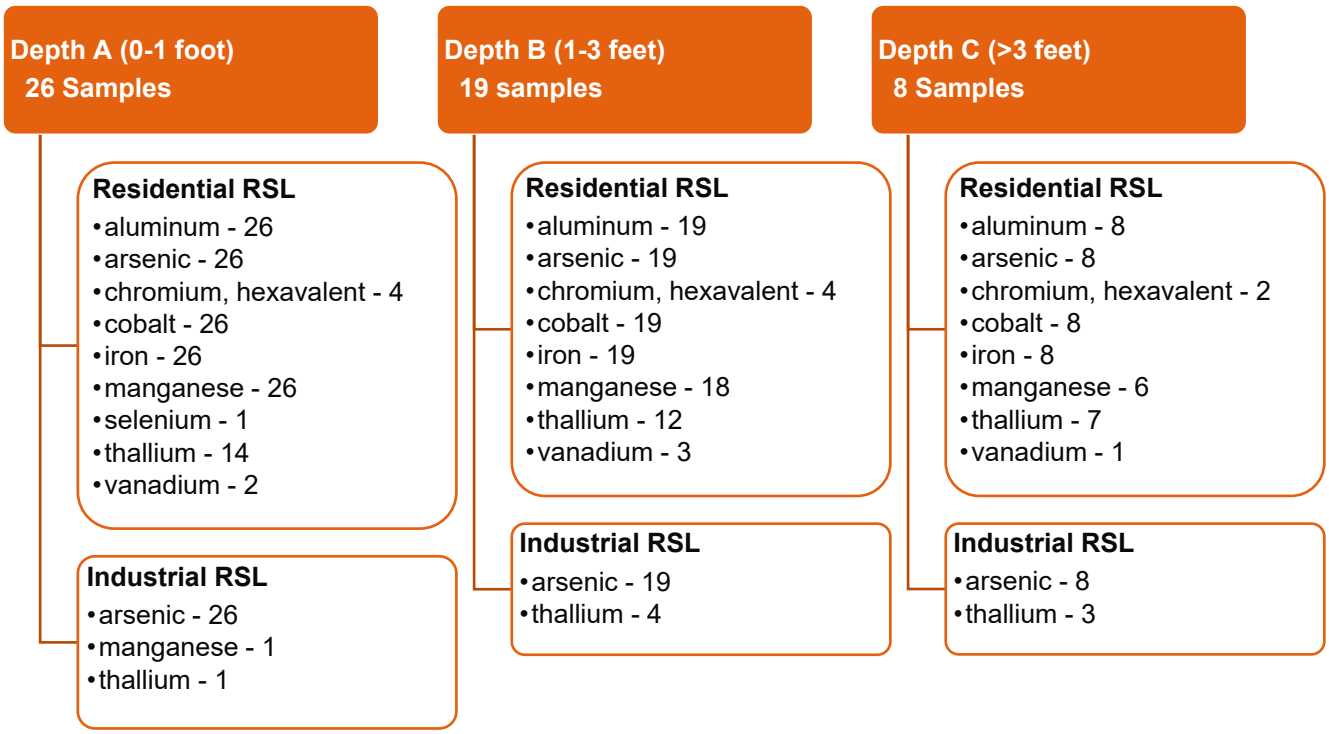
In the 35 reference soil samples analyzed for 17 PAHs, 15 PAHs were detected in at least one sample. Fourteen PAHs were detected in the Depth A samples, and 15 PAHs were detected in the Depth B samples. None of the Reference Area PAH concentrations exceeded the USEPA residential or industrial RSLs.

4.3.1.3 Metals

Former Launch Area

In the 53 soil samples analyzed for metals, 24 metals were detected in at least one sample. **Exhibit 4-2** summarizes the number of samples with detected concentrations of metals that exceeded USEPA residential and/or industrial RSLs for the following sample depth intervals. **Figures 4-6b** and **4-7b** show concentrations of the metals at the locations with exceedances.

Exhibit 4-2: Metals RSL Exceedances in Former Launch Area Soil Samples

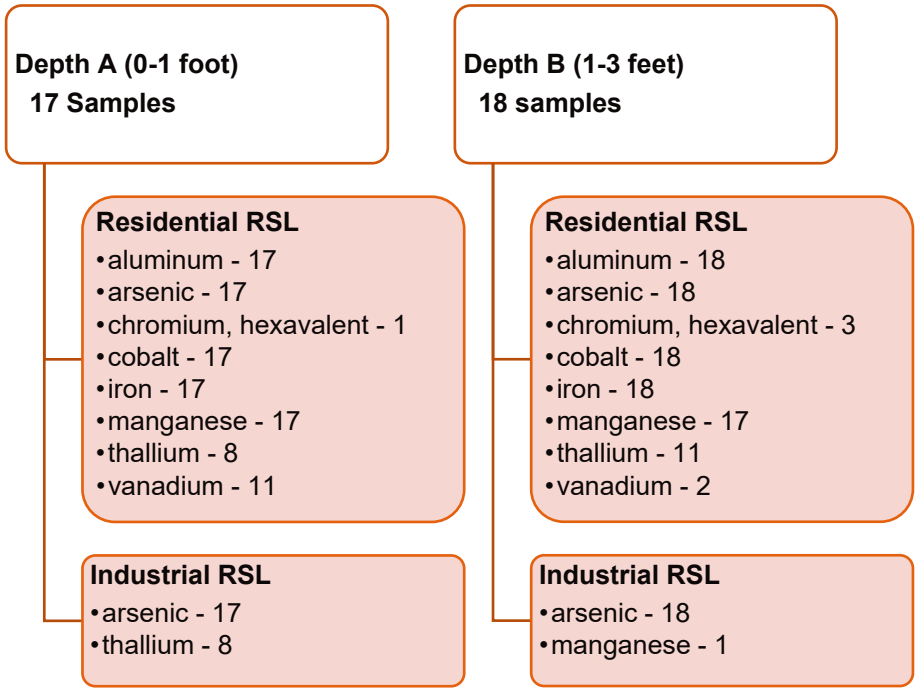


Reference Area

In the 35 reference soil samples from 16 locations analyzed for metals, 24 metals were detected in at least one sample. Concentrations of aluminum, cobalt, iron, and manganese exceeded residential RSLs at all 16 reference sample locations, and arsenic concentrations exceeded the industrial RSL at all locations. **Figure 4-8** shows concentrations of the metals that exceeded screening criteria at the reference locations.

Exhibit 4-3 summarizes the number of reference samples with detected concentrations of metals that exceeded USEPA residential and/or industrial RSLs for the 0 to 1 foot bgs and 1 to 3 feet bgs sample depth intervals. Different formatting (white header boxes and orange shading in boxes detailing exceedances) was used in the exhibit for reference soil data, to distinguish from the previous exhibit for the former Launch Area soil data.

Exhibit 4-3: Metals RSL Exceedances in Reference Soil Samples



4.3.1.4 Polychlorinated Biphenyls

Former Launch Area

Four soil samples collected from three locations in the vicinity of a former transformer pad were analyzed for seven PCB Aroclors. Two samples (parent and field duplicate) were collected from Depth A at one location and two samples were collected from Depth B at two locations. No PCB Aroclors were detected in any of the samples.

Reference Area

Reference soil samples were not analyzed for PCBs.

4.3.1.5 Hydrazines

Former Launch Area

In the 53 soil samples analyzed for hydrazines, hydrazine was not detected in 42 samples and results were rejected ("R" qualified) in 11 samples. Methyl hydrazine was not detected in 45 samples and results were rejected ("R" qualified) in eight samples. It should be noted that the "R" qualified data were initially "X" qualified which indicated significant quality control deficiencies in the laboratory analysis of the samples. As described in **Section 4.3.4.3,** the JV and USACE project team recommended that the "X" qualified data be rejected, and the qualifier changed to "R".

Reference Area

Reference soil samples were not analyzed for hydrazines.

4.3.2 Groundwater

A total of 46 groundwater samples (including field duplicate samples) were collected during two sampling events in September and December 2020 during the RI field activities. Samples collected from one upgradient well (MW-16) were used to approximate background conditions. The location of this well was selected as it was the most upgradient area accessible in the former Launch Area that would not also be downgradient of the Town landfill and/or immediately downgradient of the NYS Thruway.

Analytical results for groundwater samples are summarized in **Table 4-4a** (VOCs), **Table 4-4b** (SVOCs), and **Table 4-4c** (metals). Exceedances of the human health screening criteria for groundwater in the former Launch Area are presented on **Figure 4-9a** (VOCs), **Figure 4-9b** (SVOCs), and **Figure 4-9c** (metals).

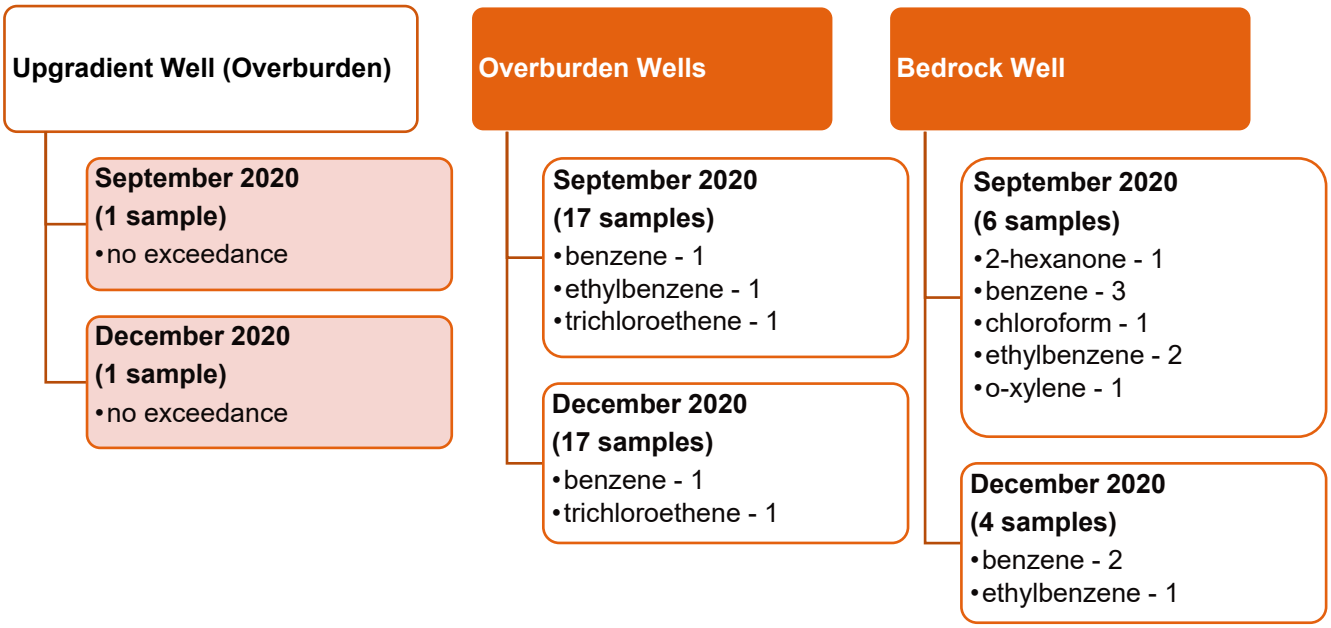
The laboratory analytical reports are available in the FUDSChem library. Data validation reports are provided in **Appendix C**.

4.3.2.1 Volatile Organic Compounds

In the 46 groundwater samples analyzed for 51 VOC constituents, 16 VOCs were detected in at least one groundwater sample during the September and/or December sampling events. **Figure 4-9a** shows locations with concentrations of VOCs exceeding USEPA Tapwater RSLs. No VOC concentrations exceeded the Tapwater RSLs in the upgradient well, MW-16.

Exhibit 4-4 below summarizes the number of samples with detected concentrations of VOCs exceeding the Tapwater RSLs by monitoring well type and sampling event. As shown in **Exhibit 4-4**, there was good agreement between the two sampling events in terms of the number and type of analytes that exceeded the applicable criteria. Different formatting (white header box and orange shading in boxes detailing exceedances) was used to show upgradient monitoring well data, to distinguish from the former Launch Area groundwater data.

Exhibit 4-4: Numbers of VOC Exceedances of Tapwater RSLs in Groundwater Samples

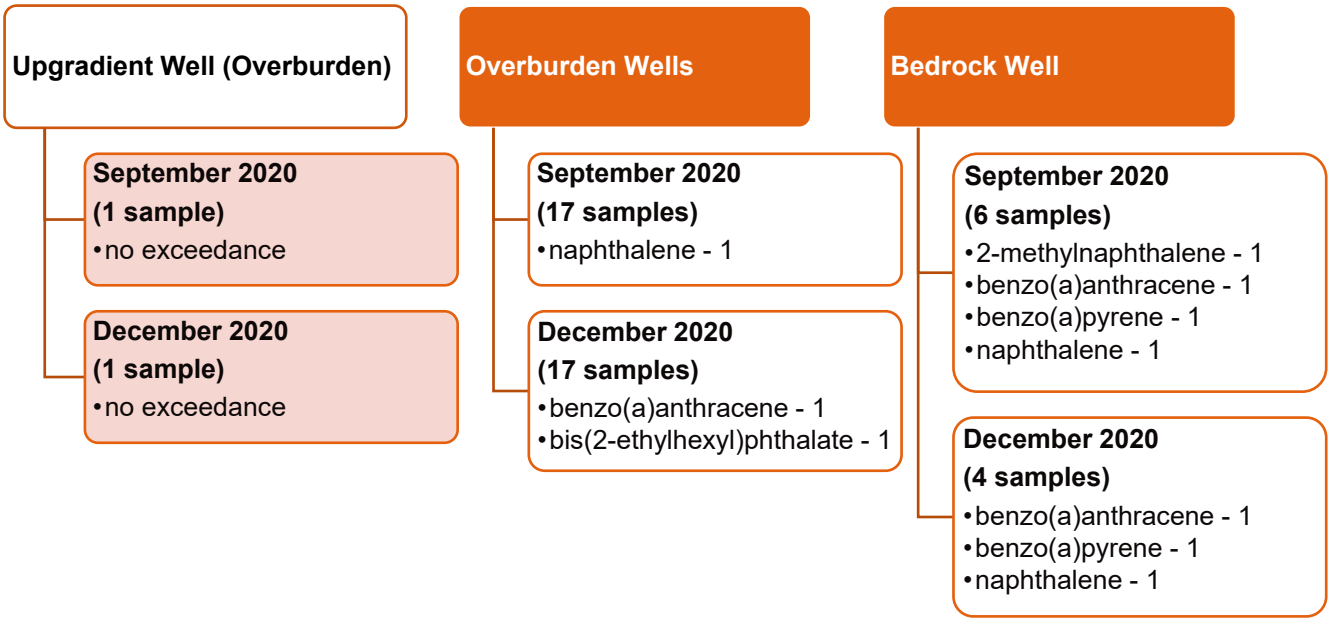


4.3.2.2 Semi-Volatile Organic Compounds

In the 46 groundwater samples analyzed for 68 SVOC constituents, 17 SVOCs were detected in at least one groundwater sample during the September and/or December sampling events. Sixteen of the 17 detected SVOCs were PAHs. **Figure 4-9b** shows locations with concentrations of SVOCs exceeding RSLs. No SVOC concentrations exceeded the RSLs in the upgradient well.

Exhibit 4-5 below summarizes the number of samples with detected concentrations of PAHs exceeding the USEPA Tapwater RSLs by monitoring well type and sampling event. Different formatting (white header box and orange shading in boxes detailing exceedances) was used to show upgradient monitoring well data, to distinguish from the former Launch Area groundwater data.

Exhibit 4-5: Numbers of SVOC Exceedances of Tapwater RSLs in Groundwater Samples



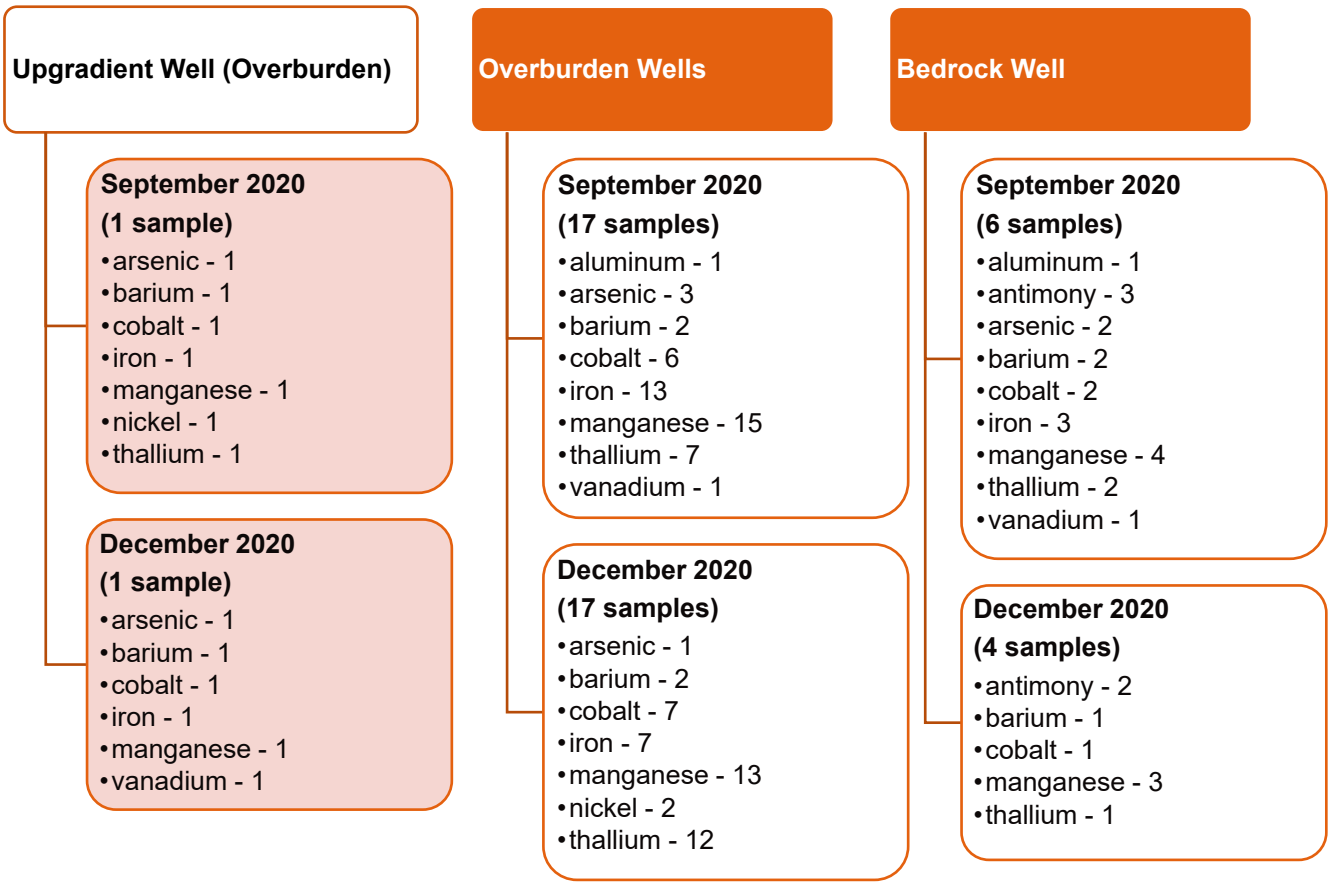
4.3.2.3 Metals

Total Metals

In the 46 groundwater samples analyzed for total metals, all 23 metals were detected in at least one sample collected during the September and/or December sampling events. In the upgradient well, 20 metals (total) were detected during the September and/or December sampling events. **Exhibit 4-6** below summarizes the numbers of samples with detected concentrations of total metals exceeding the USEPA Tapwater RSLs by monitoring well type and sampling event. Different formatting (white header box and orange shading in boxes detailing exceedances) was used to show upgradient monitoring well data, to distinguish from the former Launch Area groundwater data.

RSLs are not available for calcium, magnesium, potassium, and sodium. However, it was observed that concentrations of these metals (particularly sodium) were much higher than typical for freshwater groundwater. Sodium concentrations near 20 mg/L would be expected in background groundwater for this area (USGS OFR 2013-1095). Sodium concentrations ranged from 70.3 to 2,720 mg/L and were also elevated at the upgradient well location (268 to 315 mg/L). This finding can be explained by the storage of road salt/brines at the site, truck transport/loading/unloading of road salt by the Town of Hamburg's Highway Department, and the presence of an interstate highway (which is heavily salted during winter months) directly to the northwest.

Exhibit 4-6: Numbers of Total Metals Exceedances of Tapwater RSLs in Groundwater Samples

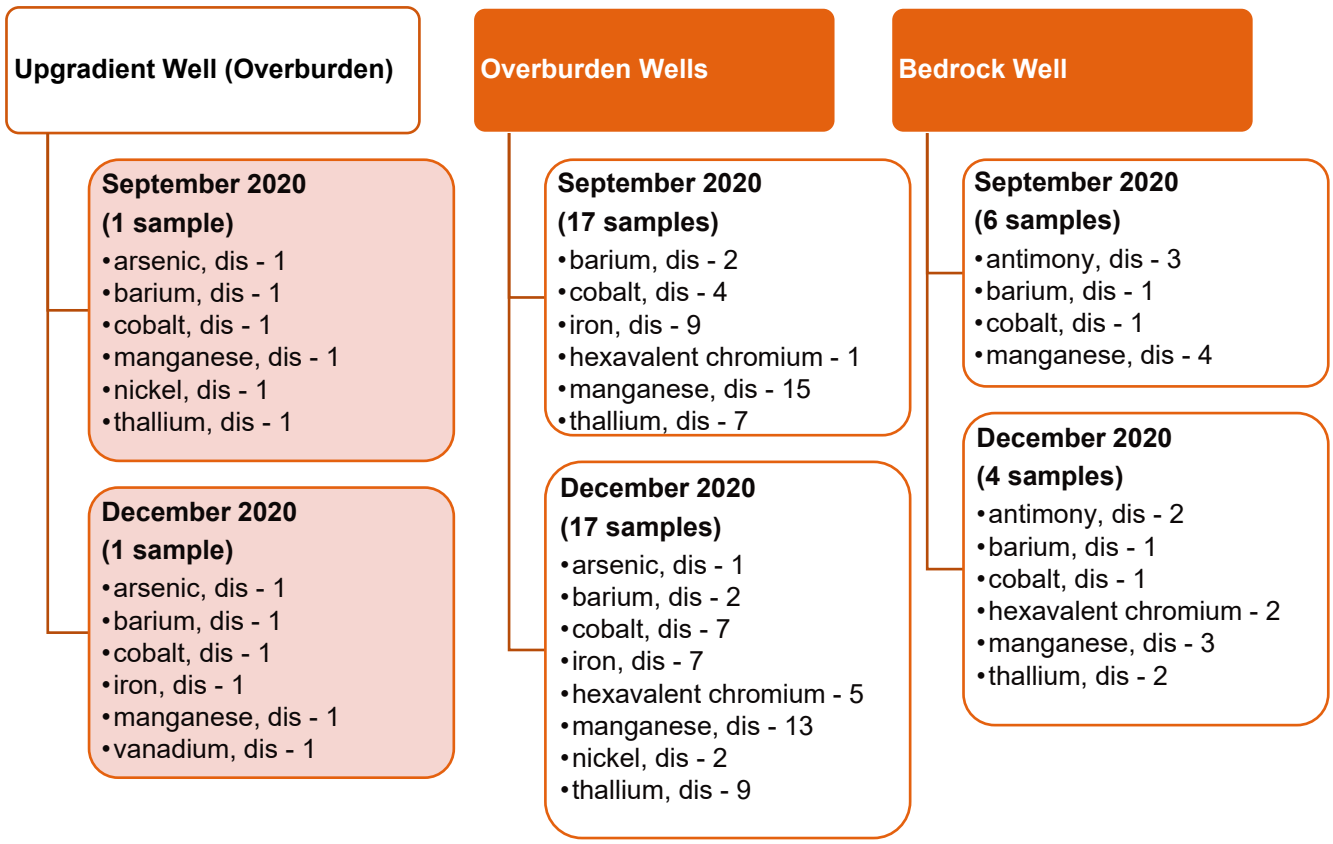


Dissolved Metals

In the 46 groundwater samples analyzed for 24 dissolved metals, 23 metals were detected in at least one sample collected during the September and/or December sampling events. In the upgradient well, 16 metals (dissolved) were detected during the September and/or December sampling events. **Exhibit 4-7** below summarizes the numbers of samples with detected concentrations of dissolved metals exceeding the USEPA Tapwater RSLs by monitoring well type and sampling event. Different formatting (white header box and orange shading in boxes detailing exceedances) was used to show upgradient monitoring well data, to distinguish from the former Launch

Area groundwater data. **Figure 4-9c** shows locations with concentrations of total and/or dissolved metals exceeding RSLs.

Exhibit 4-7: Numbers of Dissolved Metals Exceedances of Tapwater RSLs in Groundwater Samples



4.3.3 Background Threshold Values

The Reference Area (i.e., background) soil data were used to calculate site-specific BTVs. BTVs are typically represented by Upper Tolerance Limits (UTLs) calculated from a background dataset. For example, a 95/95 UTL indicates a value that contains 95% of the population with 95% confidence. The BTVs are used to aid in the identification of COPCs and inform the remedial decision process (see **Section 6**). The evaluation focused on metals and PAHs.

BTVs were derived using reference soil data from the 0 to 1 foot and 1 to 3 feet depth intervals and were developed for those constituents with a minimum of eight samples and five detections. If insufficient data were available to calculate UTLs, the BTV was approximated by the maximum detected concentration in the background dataset.

Prior to calculating BTVs, several exploratory data analysis steps were used to identify suspected outliers and determine goodness-of-fit (GOF) for each data set. Consistent with USEPA (2015) guidance, data were evaluated for fits to normal, lognormal, and gamma distributions at an alpha level (α) of 0.05 (95% significance level).

Optimal statistical tests, depending on the distribution and sample size, were applied using USEPA's (2015) ProUCL 5.1.002 software. The criteria for selecting the most reliable method of UTL calculation, in accordance with USEPA (2015), depends on sample size, degree of censoring, GOF results, and skewness (as determined by the standard deviation of the natural logarithm of the detections). The UTL was selected from among five possible methods: normal UTL, lognormal UTL, gamma UTL, KM UTL, or nonparametric UTL. If the UTL exceeded the maximum detected concentration, then the maximum was retained as the BTV for conservatism.

The detailed discussion on the BTVs is provided in **Appendix J**, along with the reference soil sample data, a table with suspected outliers, and BTVs for the 0 to 1 foot and 1 to 3 feet bgs depth intervals. The results of the BTV derivations for each soil depth horizon are also shown in **Table 4-5a** (0 to 1 foot bgs) and **Table 4-5b** (1 to 3 feet bgs). For comparison purposes, regional background levels for metals and PAHs in soil from the NYSDEC (2005) rural soil survey are provided in the tables. In general, the BTVs derived from the Reference Area soil data were found to be within an order of magnitude of the regional background levels.

4.3.4 Data Usability

4.3.4.1 Data Validation Procedures

Data validation criteria for the RI conducted at the former Launch Area were based on the quality objectives developed in the Final RI QAPP (JV 2020). Cadena, Incorporated (Inc.), a third party who was not associated with sample collection and analysis, interpretation of sample data, or any decision-making process for this project, validated the site data. Data were reviewed under Stage 2A guidelines. The analyses were validated using the following documents, as applicable to each analytical method:

- DoD Quality Systems Manual for Environmental Laboratories, Version 5.3 (2019a);
- DoD General Data Validation Guidelines, Revision 1 (2019b).

Before validation, field data were entered into FUDSChem throughout the sampling event and screened for errors. FUDSChem contains all tools necessary to review, qualify, and assess the quality of analytical data, as well as the tools to generate a presentation-quality data review report that displays these findings. As soon as a laboratory certifies a compliant Staged Electronic Data Deliverable (SEDD) 5.2 2a file into FUDSChem, Automated Data Review (ADR) is triggered and performs a data quality assessment based on the electronic QAPP. ADR checks the data for outliers and applies qualifiers based on the parameters set in the Final RI QAPP. Generally, for data validation, the validator will keep the chemistry results by sample delivery group (SDG), preliminary (Excel Format) report open in one window and use it, along with the lab report, to fill out the Data Review Checklist. If the validator finds a data point in the chemistry results by SDG preliminary (Excel Format) report that needs to be qualified, or that needs the qualifier removed or edited, the validator will update the qualifiers.

Sample results were subject to a Stage 2A data validation. Stage 2A data validation assesses data quality by comparing data collection, QC, and reporting parameters to the appropriate criteria (or limits) as specified in the Final RI QAPP, Contract Laboratory Program requirements, or by method-specific requirements.

4.3.4.2 Data Validation Results

Data validation reports are included in the FUDSChem library and are provided in **Appendix C**. Overall, the sample analyses were completed with quality assurance (QA)/QC protocols met. The "2020 former Launch Area" dataset is considered usable and meets project DQOs with the minor exceptions summarized below and provided with more detail in **Appendix C**.

- Analysis performed more than two times past the method-specified 24-hour holding times ("X" qualified):
  - Hexavalent chromium results in four groundwater samples and one equipment blank sample.
- Recoveries in the MS and/or MSD samples less than 30 percent ("X" qualified):
  - Antimony results in three soil samples and associated field duplicate samples.
  - Hexavalent chromium results in two soil samples and two groundwater samples.
- Recoveries in the MS and/or MSD samples less than 10 percent ("X" qualified):
  - 4-chloroaniline results in one soil sample and field duplicate sample.
  - Caprolactam result in two groundwater samples.
  - Hydrazine results in three soil samples.
  - Hydrazine and methyl hydrazine results in five soil samples and three associated field duplicate samples.
- Recovery in the laboratory control sample (LCS) less than 10 percent ("X" qualified):
  - Caprolactam results in three equipment blank samples.
  - 4-chloroaniline results in six soil samples.
  - Atrazine result in one soil sample.
  - 3,3'-dichlorobenzidine, 4-nitroaniline, atrazine, and N-nitrosodiphenylamine results in three soil samples.
  - 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, 2,4-dichlorophenol, 2,4-dinitrophenol, 2-chlorophenol, 2-nitrophenol, 4,6-dinitro-2-methylphenol, pentachlorophenol, and phenol results in three equipment blank samples.
  - 2,3,4,6-tetrachlorophenol, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, 2,4-dichlorophenol, 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, 4-nitrophenol, and pentachlorophenol results in two groundwater samples and one equipment blank sample.
  - 2,3,4,6-tetrachlorophenol, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, 4-nitrophenol, and pentachlorophenol results in six groundwater samples and one equipment blank sample.
  - 2,3,4,6-tetrachlorophenol, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, 2,4-dichlorophenol, 2,4-dinitrophenol, 2,4-dinitrotoluene, 2-chlorophenol, 2-nitrophenol, 4,6-dinitro-2-methylphenol, 4-nitrophenol, m-&p-cresols, hexachlorocyclopentadiene, pentachlorophenol, and phenol results in six groundwater samples and one equipment blank sample.
  - 2,3,4,6-tetrachlorophenol, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, 2,4-dichlorophenol, 2,4-dinitrophenol, 2-chlorophenol, 2-methylphenol, 2-nitrophenol, 4,6-dinitro-2-methylphenol, 4-chloro-3-

methylphenol, m-&p-cresols, pentachlorophenol, phenol, and 4-nitrophenol results in six groundwater samples, two field duplicate samples, and one equipment blank sample.

- The recoveries of one or more of the SVOC acid fraction surrogate compounds (i.e., 2,4,6-tribromophenol, phenol-6, and 2-fluorophenol) were less than 10 percent in 11 groundwater samples, two field duplicate samples, and 10 equipment blank samples. Samples were “X” qualified.

4.3.4.3 Data Uncertainty

The overall assessment of the field samples and QA/QC checks for the former Launch Area sampling dataset met project requirements and completeness goals. The completeness goal of 90 percent was met overall.

A total of 2,900 results for certain analyses and/or analytes were qualified as estimated (J qualifier) or estimated non-detect (UJ qualifier) out of 22,446 results for the “2020 former Launch Area” data. Sample results qualified as estimated (UJ, J) due to QC exceedances are usable with an understanding of the quality issues identified in the data validation report.

A total of 552 results for certain analyses and/or analytes in the “2020 former Launch Area” dataset were “X” qualified for the reasons previously described in **Section 4.3.4.2**. As stated in the DoD Data Validation Guidelines (2019b), “Sample results (including non-detects) qualified as X were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.” Therefore, the JV and USACE project team recommended that the 552 results that were X qualified be excluded from the “2020 former Launch Area” data set. These excluded data points are presented in Tables 4-2a, 4-2b, 4-2c, 4-3a, 4-3b, 4-4a, 4-4b, and 4-4c with R qualifiers. Despite the rejected data, the overall project DQOs were met.

For several of the target analytes, in soil and/or groundwater, the limits of detection were greater than the human health or ecological project action limits identified in the Final RI QAPP. This was primarily due to matrix interference in the samples and was limited to select metals and organics in soil and groundwater. The uncertainty associated with the elevated detection limits is further discussed in the uncertainty section of the BRA.

Based on the Stage 2A data validation, results that are not excluded are considered valid and usable.

5 Conceptual Site Model

This section presents the CSM for the former Launch Area of the Nike Battery that was developed based on the results of the RI. As provided in USEPA guidance, "A CSM is a comprehensive graphical and written summary of what is known or hypothesized about environmental contamination at a site and the relationships among key site information that are pertinent to decision-making. A CSM is a representation that evolves over the life cycle of site investigation and cleanup efforts. It provides a platform for evaluating the data gaps and related uncertainty associated with site history and operations; geology, hydrogeology and hydrology; contaminant sources, release mechanisms and fate and transport; potential receptors and exposure pathways." (USEPA 2021 Accessed at: https://clu-in.org/optimization/components_csm.cfm). Presented below are discussions on physical characteristics of the site, potential site constituents and sources, nature and extent of contaminants, and their fate and transport.

5.1 Physical Characteristics of the Site

After completion of the RI field work, key physical aspects of the site were evaluated to determine if assumptions changed based on the site observations and the results from the 2020 soil and groundwater sampling. Based on the results of the RI presented in the previous sections, the physical aspects of the CSM presented in the Final RI QAPP remain representative of the site. Most notably, this includes:

- The former Launch Area is used exclusively for commercial/industrial activities.
- Soil/overburden materials in the former Launch Area are predominantly composed of fill and reworked native materials. There was no visual or field-measured evidence of contamination (i.e., staining or odors) encountered in the overburden samples collected from the site.
- The groundwater table is located in the weathered bedrock layer at the interface between the overburden and competent bedrock.
- Bedrock is comprised of shale that is fractured along bedding planes at shallow depths and becomes more competent (i.e., less fractured) with depth.
- Overburden and bedrock groundwater can be considered a single, connected, unconfined flow system with groundwater flow toward 18 Mile Creek, which is the regional drainage feature. There was no visual or field-measured evidence of contamination (i.e., sheens or odors) observed in the groundwater samples collected from the site.
- Surface water flow is only present during precipitation/melting events and drains to wetland areas that also eventually discharge to 18 Mile Creek.

5.2 Identification and Nature and Extent of Contaminants

The results of the RI investigations indicate that the primary contaminants found in the former Launch Area soil and groundwater are PAHs and metals, with other SVOCs and VOCs found to a lesser extent in groundwater. These contaminants were detected in surface soil (0 to 1 foot bgs), subsurface soil (1 to 7 feet bgs), and overburden and bedrock groundwater samples at the site. As noted in **Section 2.5,** there is very limited ecological habitat at the former Launch Area; therefore, the following discussion of potential site constituents focuses on the comparison of detected concentrations to human health screening criteria. The surface and subsurface soil results were not initially screened with ecological screening criteria to evaluate nature and extent since only a subset of the soil sample locations was identified as potential habitat. The soil data from those areas that contain

potential habitat were compared to ecological screening benchmarks in the SLERA, and the results of the soil data screened with ecological criteria are discussed in detail in **Section 6.2**.

Soil data from the former Launch Area were also compared to reference soil data. These comparisons are presented in the HHRA (**Section 6.1**) and SLERA (**Section 6.2**). Constituents with maximum detected site concentrations less than BTVs calculated from the reference soil data were not included in the quantitative risk assessments (see **Sections 6.1.1** and **6.2.3**). Groundwater data from the former Launch Area were compared to upgradient monitoring well data. Constituents with maximum detected site concentrations less than the upgradient groundwater concentrations were not included in the quantitative HHRA (**Section 6.1.1**).

5.2.1 SVOCs/PAHS

Five PAHs (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene) were present at concentrations that exceeded residential soil RSLs, primarily in surface soil samples collected from the former Launch Area (**Table 4-2b**). These PAHs are classified as high molecular weight (HMW) PAHs. Benzo(a)pyrene was the most common exceedance spatially (including in soil at the upgradient location NHLA-MW16) and the only PAH present at a concentration that exceeded its industrial RSL. Approximately half of the benzo(a)pyrene exceedances in soil had concentrations below the regional background level (470 µg/kg; NYSDEC, 2005). As shown on **Figure 4-6a** and **Figure 4-7a**, the highest levels of PAHs were found in surface soil collected from 0 to 1 foot bgs at NHLA-MW14 and NHLA-MW15. NHLA-MW14 is associated with the drum and material storage historical activities area and is located along the east perimeter swales and downgradient of the site. NHLA-MW15 is located along east perimeter swales and proximal to the historical missile silos, now filled with asphalt pavement millings.

Concentrations of the PAHs in the former Launch Area soil samples are higher than concentrations of PAHs detected in Reference Area soil samples (**Table 4-3a**). For surficial soil (0 to 1 foot bgs), concentrations of five PAHs (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene) from the former Launch Area are statistically greater than the Reference Area samples. For subsurface soil (1 to 3 feet bgs), only two PAHs (benzo(a)pyrene, benzo(b)fluoranthene) from the former Launch Area are statistically greater than the Reference Area samples (see **Appendix J** Table J-5 for details).

In groundwater, 2-methylnaphthalene, benzo(a)anthracene, benzo(a)pyrene, bis(2-ethylhexyl)phthalate, and naphthalene concentrations exceeded residential RSLs in several overburden and bedrock wells (NHLA-MW1OB, -MW4BR, -MW4OB, -MW5BR, -MW9BR, and -MW11) (see **Table 4-4b** and **Figure 4-9c**). The concentrations of these SVOCs were slightly above the residential RSL and, based on their isolated nature and location/distance from former DoD activity areas, do not indicate a release to the environment associated with past DoD activities. Two of the constituents (2-methylnaphthalene and naphthalene) are classified as low molecular weight (LMW) PAHs which are more soluble and volatile than HMW PAHs. The well with the greatest number of PAHs at concentrations above screening criteria was NHLA-MW5BR, which is located on the downgradient side of the site. There were no SVOC exceedances in the samples from the upgradient well NHLA-MW16. In addition, these compounds do not readily dissolve in groundwater and, when they do, their mobility is restricted by the presence of organic carbon, which is ubiquitous in the subsurface at the site due to the presence of fill materials in the overburden and natural petroleum compounds in the bedrock. Therefore, their presence at NHLA-MW5BR is not likely attributable to upgradient sources.

The distribution of the SVOCs/PAHs spatially and temporally suggests that there is no discernible trend in soil or groundwater, and that any impacts are likely localized. The shallow soils across the site indicate that PAHs may be present due in part to multiple non-DoD-related sources, such as petroleum residuals related to UST or AST leaks, fueling spills, asphalt used in road construction, tar, or from asphalt millings stored by the Town of

Hamburg in the missile silo vaults. The LMW PAHs in soil are present at substantially lower concentrations (below screening criteria) and smaller spatial distribution than those of the HMW PAHs. In groundwater, SVOC/PAH exceedances did not correlate with the SVOC/PAH soil results, illustrating the relatively low mobility of the HMW PAHs.

5.2.2 Metals

Various metals were detected in former Launch Area soils, Reference Area soils, and groundwater during the RI field investigations. In the Reference Area, eight metals (aluminum, arsenic, hexavalent chromium, cobalt, iron, manganese, thallium, and vanadium) were detected at concentrations above residential screening criteria in surface and subsurface soil depths at the site (**Table 4-3b**). The same metals, plus selenium (with 'J' qualifier), were detected in the former Launch Area at concentrations above residential screening criteria in surface and subsurface soils (**Table 4-2c**). Concentrations of only three of the eight metals (arsenic, manganese, and thallium) also exceeded their industrial RSLs in one or more samples from the Reference Area and the former Launch Area.

The concentrations of the metals in the former Launch Area and reference locations are similar. The results of the data collected from the former Launch Area and from the Reference Area suggest that metals concentrations in the former Launch Area are at local background levels, and that site soils have not been impacted by DoD-related activities. Aluminum, antimony, arsenic, cadmium, iron, nickel, and vanadium were detected in surface soil (0 to 1 foot bgs) at concentrations less than BTVs (see **Appendix I**, RAGS Part D Table 2.1). Although maximum detected concentrations of cobalt, selenium and thallium exceeded BTVs, their surface soil data sets were statistically different from (less than) the Reference Area data sets (see **Appendix J** Table J-5). For subsurface soil (1 to 3 feet bgs), concentrations of antimony, arsenic, cadmium, cobalt, copper, iron, manganese, nickel, selenium, vanadium, and zinc were less than BTVs (see **Appendix I**, RAGS Part D Table 2.2). Although maximum detected concentrations of aluminum, hexavalent chromium and thallium exceeded BTVs, their subsurface soil data sets were statistically different from (less than) the Reference Area data sets (see **Appendix J** Table J-5). In general, for the metals listed in **Exhibit 4-3**, the maximum concentrations detected in Reference Area soil samples are greater than the regional background levels (NYSDEC 2005).

Numerous metals were detected at concentrations greater than the USEPA Tapwater RSLs in both the total and dissolved samples **(Table 4-4c)**. However, the same metals were detected in locations upgradient from the DoD activity areas. In addition, many of these metals (i.e., iron, manganese, aluminum) are ubiquitous in groundwater throughout the region.

In addition, storage, handling and use of highly soluble road salts by the Town of Hamburg's Highway Department on and adjacent to the former Launch Area appears to have impacted groundwater, resulting in elevated sodium, potassium, calcium, and magnesium in groundwater that is characteristic of sodium chloride (NaCl), potassium chloride (KCl), calcium dichloride ($CaCl_2$), and magnesium chloride ($MgCl_2$) road salts. These road salts, when introduced in the soils at high concentrations, will displace other metals sorbed to clays and other charged surfaces or bound to organic matter. The result is elevated levels of both the road salts and metals in the soils mobilized by the road salts to the groundwater at levels above expected background. Sodium, the most common element of the road salts used, is present in the groundwater at levels as much as 100-times higher than expected for groundwater in this area (USGS OFR 2013-1095). Because the use of these salts varies year-to-year, and relative mobility of the metal ions varies based on their individual geochemical characteristics, the relationship between individual road salts to other metals present in the groundwater is complex. Although the relationship between these metals is complex, there is a significant correlation between calcium from the road salt and manganese, and magnesium from the road salt and manganese concentrations in groundwater. Based on

the distribution of metals throughout the site and given the use of the former Launch Area as a town maintenance facility for more than 50 years, the metals detected in groundwater are indicative of releases related to road salt storage onsite and are not indicative of a release to the environment associated with past DoD activities.

5.2.3 VOCs

VOCs were detected in groundwater at concentrations above screening criteria **(Table 4-4a)**; no VOCs in soil exceeded screening criteria **(Table 4-2a)**. Concentrations of 2-hexanone, benzene, ethylbenzene, xylene, and trichloroethene (TCE) in groundwater exceeded USEPA Tapwater RSLs in overburden (NHLA-MW4OB, -MW5OB, and -MW9OB) and bedrock wells (NHLA-MW4BR, -MW5BR, and -MW9BR).

The presence of benzene, ethylbenzene, and xylene may be due to historical releases or naturally-occurring petroleum deposits that exist in the area. These compounds are very water soluble, resulting in high mobility. When released to water, VOCs are unlikely to adsorb to sediment or suspended solids; thus, they are less likely to persist in the environment. Given that the site has been used as a highway maintenance facility for more than 50 years, it is likely that the presence of these compounds is not associated with DoD activities.

TCE concentrations exceeded the RSL of 0.28 micrograms per liter (µg/L) in two overburden wells (NHLA-MW4OB in September at 0.37 J µg/L and the field duplicate for NHLA-MW9OB in December at 0.410 µg/L) but were below detection limit in their respective bedrock well pair. It should be noted that the detection in NHLA-MW4OB is a 'J' laboratory qualifier, indicating that it is an estimated value; and TCE was not detected in the parent sample of NHLA-MW9OB. These concentrations were slightly above the residential RSL and, based on their isolated nature and location/distance from former DoD activity areas, do not indicate a release to the environment associated with past DoD activities.

No VOCs were found in soil at concentrations above screening criteria.

5.3 Fate and Transport

Contaminant transport refers to migration mechanisms away from the source area. Contaminant fate refers to the expected final state that an element, compound, or group of compounds will achieve following release (and transport) to the environment. Understanding the fate and transport in the environment is important in evaluating the potential hazards to human health and the environment.

5.3.1 General

The primary environmental media for contaminants at the former Launch Area are surface and subsurface soil and groundwater. There are no permanent surface water features or aquatic habitat on the site, therefore surface water and sediment were not considered environmental media of concern. The contaminants identified in the former Launch Area at concentrations exceeding the applicable human health RSLs are PAHs and metals in soil and VOCs, SVOCs, and metals in groundwater.

Besides metals, which are naturally occurring elements in soil, the most prevalent compounds present in soil in the former Launch Area at concentrations exceeding USEPA residential or industrial RSLs are PAHs. These compounds were ubiquitous throughout the investigation area, and they were also detected in reference soil samples. In addition, there are no localized areas of relatively elevated concentrations, indicating that the impacts to site soils are not from DoD-related activities.

In groundwater, the metals, VOCs, and SVOCs detected at concentrations greater than the USEPA Tapwater RSLs also likely do not indicate a release to the environment associated with past DoD activities. The metals concentrations upgradient of DoD activity areas are similar to concentrations from downgradient locations. VOC and SVOC exceedances are isolated and are not co-located with former DoD activity areas.

5.3.2 Potential Sources and Routes of Migration

The primary potential sources for contaminants at the former Launch Area are the missile silos and support facilities. Historic releases may have occurred to soil and/or paved surfaces, resulting in contaminants present in surface soil. Contaminants at the site are subject to various transport or migration mechanisms including wind dispersion/wind erosion, surface runoff and surface water flow, and infiltration/dissolution. Migration pathways may include air, water, soil, and the interfaces between the phases of the contaminant (i.e., solid, liquid, or gas), as well as biological uptake. Migration of constituents from impacted media (primary, secondary, and tertiary source media) to exposure media (media to which human and ecological receptors may be exposed) can involve a variety of release mechanisms and transport routes. The exposure routes applicable to the former Launch Area are described in the sections below.

5.3.2.1 Soil-to-Groundwater

The primary mechanism of contaminant transport from the secondary source (i.e., surface soil/vadose zone) to groundwater is through dissolution and transport of constituents via infiltration from precipitation or snowmelt. The average depth to groundwater in the former Launch Area is less than 10 feet bgs (**Table 3-1**). The short transport pathway through the vadose zone increases the likelihood of contaminants in the soils/vadose zone to reach groundwater.

The following can facilitate or impede contaminant transport to groundwater:

- Soil pH;
- Organic and clay content in the soil;
- ORP;
- Sorption properties of the constituent;
- Constituent solubility.

The storage and truck transport of road salt by the Town of Hamburg's Highway Department has resulted in the distribution of salts across the soil surface at the former Launch Area. This is particularly true of sodium (the most common road salt is sodium chloride) and is evident by the very high sodium concentrations in groundwater. Once dispersed to soil, the salt cations will displace naturally occurring metals (e.g., cobalt, manganese, and vanadium) that are sorbed to exchangeable sites on the soils (clays and iron oxyhydroxide precipitates) and organic matter due to the high ionic strength of the sodium chloride solutions. The distribution of these cations will depend on the amounts of road salt stored at the site, and when and how long the material was stored. An additional source of sodium to area-wide groundwater is the application of road salt on the interstate highway northwest and generally upgradient of the former Launch Area. This results in naturally-occurring metals in soil becoming mobilized in groundwater and could explain concentrations greater than the RSLs, including at the upgradient well location, MW-16.

5.3.2.2 Overland Flow

Overland flow via surface runoff and surface water flow is a secondary release mechanism. Stormwater can erode exposed soil particles during precipitation events. This is influenced by site topography, amount and rate of precipitation, soil particle size/density, cohesion of soil, and vegetation cover. Vegetation limits the surface area of soil subject to erosion by stormwater runoff. The former Launch Area is highly disturbed with little vegetation and has significant coverage by impervious surfaces. The area is generally flat with a small manmade drainage swale along the southeastern border of the former Launch Area that may collect runoff during periods of heavy rainfall and snowmelt. Surface runoff and overland flow may impact tertiary sources (i.e., surface water and sediment), but these media are not expected to be impacted given the relatively flat topography of the site and the small size of the manmade drainage ditches.

5.3.2.3 Migration with Groundwater

Migration in groundwater occurs primarily through advection. Advection is the movement of a chemical with groundwater flow. Aquifer characteristics, such as hydraulic conductivity, pH, dissolved and total organic matter content, clay and cation exchange capacity of the aquifer matrix, ORP and dissolved oxygen, other dissolved constituents, and ionic strength of the groundwater, significantly influence mobility in the surficial aquifer. Constituent properties, including sorption, solubility, precipitation and co-precipitation reactions, and biotic and abiotic degradation, also influence mobility in the surficial aquifer. Based on water levels collected in September 2020, the direction of groundwater flow in the overburden and bedrock groundwater is to the southeast.

Based on site use and the groundwater geochemistry, there is strong evidence that the storage/transport/use of road salt is principally responsible for the levels of metals observed in groundwater. The dissolution and migration of road salt (particularly sodium chloride) originating at the site is obvious, in that the greatest total sodium concentrations (883 to 2,720 mg/L) are from overburden monitoring wells (MW-3, MW-4OB, MW-5OB, and MW-6) immediately downgradient of the existing salt barn. The highest cobalt (16.3 µg/L) and manganese (5,440 µg/L) concentrations were also observed in groundwater from MW-3. Relatively elevated metals concentrations were also found in wells (MW-2, MW-11, and MW-12) adjacent to the salt barn or near/downgradient of truck transport pathways.

5.3.2.4 Erosion and Wind Dispersion

Aerial migration of particulates from surface soil via wind erosion and dispersion may occur as a secondary release mechanism for areas of the former Launch Area with exposed soil. The potential for this transport mechanism is reduced at the site due to the covering by buildings, asphalt, and gravel for most areas. Moist or vegetated areas will also be less subject to erosion and wind dispersion.

5.3.2.5 Adsorption and Biological Uptake

Adsorption of contaminants from soil into terrestrial vegetation and soil organisms may occur as a tertiary release mechanism. Additionally, biological uptake may occur for birds and mammals foraging at the site. However, these release mechanisms are expected to be limited at the former Launch Area. As discussed in **Section 6.2**, only small areas (approximately ½-acre) of successional old field at the site perimeter provide potential habitat. The former Launch Area is largely covered with gravel, asphalt, or buildings and ecological exposure to soil in these areas is not possible. Similarly, other areas of the former Launch Area are maintained lawn. Lawn areas are not a natural cover type and provide limited wildlife habitat.

6 Baseline Risk Assessment

This section presents the baseline risk assessment (BRA) for the former Launch Area at the Nike Battery. The BRA consists of a HHRA (**Section 6.1**) and a SLERA (**Section 6.2**), which followed appropriate guidelines from the USEPA and USACE (e.g., EM 200-1-4 Volumes I and II).

6.1 Human Health Risk Assessment

The objectives of the HHRA were to:

- Evaluate potential human health risks, currently and in the future, in the absence of any major action to control or mitigate potential contamination (i.e., baseline risks).
- Assist in determining the need for and extent of (if any) soil and groundwater remediation.
- Provide a basis for deciding if remedial action is necessary to protect human health.

The HHRA followed guidance outlined in the USEPA's Risk Assessment Guidance for Superfund (RAGS), Volume I, Human Health Evaluation Manual, Part A (USEPA 1989), Part D (USEPA 2001), Part E (USEPA 2004), and Part F (USEPA 2009), which is consistent with USACE guidance EM 200-1-4, Risk Assessment Handbook – Volume I: Human Health Evaluation (USACE 1999). The HHRA is presented in a series of tables that follow the RAGS Part D (USEPA 2001) format (see **Appendix I**).

The HHRA followed the four-step process typically used to assess potential human health risks. These steps are summarized below and further described in the following sections.

- Data Evaluation – Evaluate relevant soil and groundwater data to determine data usability and select COPCs.
- Exposure Assessment – Identify actual and/or potential constituent release and transport mechanisms and potentially exposed human populations and possible exposure pathways, determine COPC concentrations at potential points of human exposure, and estimate human exposures to COPCs.
- Toxicity Assessment – Summarize toxicity information for each COPC.
- Risk Characterization – Estimate the likelihood and magnitude of adverse health effects in the form of excess lifetime cancer risks and non-cancer hazards. Discuss sources of uncertainty in the HHRA.

6.1.1 Data Evaluation

The data evaluation focuses on the compilation of usable analytical data and the selection of COPCs in soil and groundwater. The HHRA was conducted using soil and groundwater data collected during the RI. Surface soil, subsurface soil, and groundwater samples from the former Launch Area and site-specific reference sample data from adjacent areas on the Nike Battery were collected as described in the Final RI QAPP and in **Section 4**.

Surface soil data for the HHRA was defined as all samples from 0 to 1 foot bgs. Subsurface soil samples were samples from unsaturated soils at 1 foot bgs to the water table or 10 feet, whichever was first. The RI soil data from the former Launch Area included 22 surface soil (plus four field duplicate) samples and 23 unsaturated subsurface soil (plus three field duplicate) samples. Sample NHFLA-SL11B-A-SEP2020 from 0 to 2 feet bgs was included in both the surface soil and subsurface soil data sets. Two samples from 15 to 17 feet bgs were not included in the HHRA. All soil samples were analyzed for TCL VOCs, TCL SVOCs, TAL metals and hexavalent chromium. Three of the surface soil (plus one field duplicate) samples were also analyzed for PCBs.

The RI groundwater data from the former Launch Area included two rounds of samples from each of 19 monitoring wells (15 overburden and four bedrock wells) and one groundwater sample from a fifth bedrock well (NHFLA-MW5BR-SEP2020). All groundwater samples were analyzed for TCL VOCs, TCL SVOCs, TAL metals, and hexavalent chromium. Field measurements indicated the depth to shallow groundwater ranges from approximately 4 to 10 feet bgs and suggests hydrogeologic communication between the overburden and bedrock groundwater units. Therefore, all groundwater data were initially evaluated as a single aquifer (i.e., data from overburden and bedrock monitoring wells were combined) to identify COPCs for the potable use scenario. Groundwater data from only the overburden wells were used to identify COPCs for a construction/utility worker exposure scenario and the vapor intrusion pathway.

Following sample collection and analysis, the laboratory analytical data were validated in accordance with procedures outlined in the Final RI QAPP. Data validation reports are included in **Appendix C**. Generally, data characteristics used to satisfy the QA/QC requirements included precision, accuracy, representativeness, comparability, detection limit verification, and blank contamination elimination or qualification. Based on review of the data validation reports, the majority of the soil and groundwater data is of acceptable quality overall but subject to the data validator's qualifying remarks (e.g., J [estimated] qualifiers). Some sample results were qualified "X" by the data validator, indicating the sample results were affected by serious deficiencies and exclusion of the data was recommended. These results were reviewed by the JV and USACE project team and were considered unusable ("R" used as the final qualifier); therefore, "X" qualified results were not used in this HHRA. Data qualified as estimated were used as detected values, the same as unqualified data.

In summarizing the analytical data and calculating exposure point concentrations (EPCs) for the HHRA, results of parent and field duplicate samples were combined as follows:

- If a constituent was detected in both the parent and corresponding duplicate sample, the analytical results were averaged.
- If a constituent was detected in only one of the two samples, the detected concentration was used.
- If a constituent was not detected in either sample, the limits of detection were averaged.

To focus the HHRA on those constituents that, if contacted, have the greatest potential to pose human health risks, the list of detected constituents was narrowed to a final list of COPCs according to the following screening process:

- Essential nutrients (i.e., calcium, magnesium, potassium, and sodium) were categorically eliminated as COPCs. Additionally, although elevated concentrations of these essential nutrients were observed in groundwater samples from the former Launch Area and in the upgradient MW-16, the presence of these constituents in groundwater is not related to historical DoD-related activities and is likely due to storage of road salt and brine at the site (see **Appendix I**, RAGS Part D Table 2.3).
- Detected constituent concentrations in soil were compared to the USEPA residential soil RSLs (USEPA 2021a) in RAGS Part D Tables 2.1 and 2.2 (see **Appendix I**). While the current and foreseeable future use of the former Launch Area is industrial, residential soil RSLs were used to inform risk management decisions, if needed. The RSLs are protective of resident (adult and child) exposures via incidental ingestion, dermal contact, and inhalation. RSLs associated with a cancer risk of 1×10^{-6} or a non-cancer HQ of 0.1 were used to account for cumulative risk from exposure to multiple constituents. Constituents in soil with maximum concentrations greater than the residential soil RSLs were identified as COPCs.

- Detected metals and PAH concentrations in soil were also compared to BTVs calculated using the site-specific reference sample data (see **Tables 4-5a and 4-5b** and **Appendix J**). Metals and PAHs detected at concentrations greater than the residential soil RSLs but less than BTVs were eliminated from further quantitative evaluation (USACE 2011).
- For the metals and PAHs with maximum concentrations greater than the residential soil RSLs and BTVs, box plots and two-sample hypothesis tests were used to compare site data to reference soil data sets (see **Appendix J**). Metals and PAHs for which hypothesis testing indicated the site data set was less than or equal to the reference soil data set were eliminated from further quantitative risk evaluation (USACE 2011).
- Detected constituent concentrations in groundwater were compared to the USEPA Tapwater RSLs (USEPA 2021a) in RAGS Part D Tables 2.3 and 2.4 (see **Appendix I**). While groundwater is not currently used for drinking water, the potable use scenario was evaluated to inform risk management decisions, if needed. The Tapwater RSLs are protective of chronic residential exposures to chemicals in groundwater via ingestion, dermal contact, and inhalation (of volatile chemicals only) exposure routes. RSLs associated with a cancer risk of 1×10^{-6} or a non-cancer HQ of 0.1 were used to account for cumulative risk from exposure to multiple constituents. Constituents in groundwater with maximum concentrations greater than the Tapwater RSLs were identified as COPCs.
- Detected metals concentrations in groundwater were also compared to maximum concentrations in the upgradient monitoring well, MW-16. Metals detected at concentrations greater than the Tapwater RSLs but less than concentrations in MW-16 were eliminated from further quantitative evaluation (USACE 2011). Following this approach, concentrations of arsenic, cobalt, iron, manganese, and vanadium may be considered consistent with naturally occurring and/or anthropogenic conditions in groundwater and were eliminated as COPCs (RAGS Part D Tables 2.3 and 2.4).
- To evaluate the potential vapor intrusion pathway from shallow groundwater, volatile chemical analytical data from shallow (i.e., overburden) groundwater samples were compared to the USEPA Vapor Intrusion Screening Levels (VISLs; USEPA 2021b) in RAGS Part D Tables 2.5 and 2.6 (see **Appendix I**). VISLs associated with a cancer risk of 1×10^{-6} or a non-cancer HQ of 0.1 were used. A site-specific groundwater temperature based on the average of field measurements in the overburden wells with volatile chemical detections was used to adjust the Henry's Law Constant in the USEPA's groundwater VISL calculator. Volatile chemicals in shallow groundwater samples at detected concentrations greater than the VISLs were identified as COPCs for the vapor intrusion pathway.

The soil and groundwater data summaries and selection of COPCs are presented in RAGS Part D Tables 2.1 through 2.6 (see **Appendix I**). The RAGS Part D Table 2 series is organized to include the following components: range of detected concentrations, data qualifiers, location of maximum detected concentration, frequency of detection (FOD), range of detection limits, concentration used for screening, screening toxicity value, COPC flag, and the rationale for elimination or selection of a constituent as a COPC.

The surface soil COPCs shown in RAGS Part D Table 2.1 are:

- PAHs – benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene.
- Metals – hexavalent chromium and manganese.

The subsurface soil COPCs shown in RAGS Part D Table 2.2 are:

- PAHs – benzo(a)pyrene, benzo(b)fluoranthene, and dibenz(a,h)anthracene.

The groundwater COPCs shown in RAGS Part D Table 2.3 (potable use scenario) and RAGS Part D Table 2.4 (construction / utility worker exposure scenario) included VOCs, SVOCs, and metals. RAGS Part D Table 2.5 shows that no volatile constituents in shallow (i.e., overburden) groundwater from the former Launch Area exceeded USEPA VISLs (USEPA 2021b) for a commercial scenario.

RAGS Part D Table 2.6 includes groundwater data from only the overburden wells (MW-5OB, -7OB, -13, -14, and -15) located near the southern site boundary, in the direction of groundwater flow away from the site and toward the nearest residential properties on Lakeview Road. The volatile constituent concentrations in these wells were conservatively compared to the USEPA VISLs (USEPA 2021b) for a residential scenario, as a possible indication of potential future residential exposure via vapor intrusion from shallow groundwater. As shown in RAGS Part D Table 2.6, benzene was the only constituent detected in the selected wells at a concentration above residential VISLs. Benzene was detected in only three of the ten samples in the selected overburden wells, in only three of the 30 total overburden groundwater samples (see RAGS Part D Table 2.4), and in eight of the 39 groundwater samples collected during the RI (see RAGS Part D Table 2.3). The sporadic nature of the benzene detections in groundwater is not indicative of a widespread release. Two concentrations (5.1 J µg/L and 2.8 µg/L, both in MW-5OB) in the selected overburden wells exceeded the residential VISL of 2.25 µg/L. Considering that the VISL for benzene is based on a target cancer risk of 1×10^{-6}, the two concentrations from the same well barely exceed the screening level, and benzene is the only volatile constituent with an exceedance for this pathway, it can be inferred that the estimated residential cancer risk (i.e., 2E-06) would be within acceptable levels. Benzene is widely distributed in the environment and can be released to soils through multiple sources including gasoline leaks (ATSDR 2007). Once in the environment, benzene is subject to volatilization, photooxidation (on the surface), and biodegradation (ATSDR 2007). Given the time (more than 50 years) since the DoD activities at the site and the fate and transport characteristics of benzene, its presence in groundwater is likely not associated with historical DoD activities. Based on these considerations and the fact that the former Launch Area is not used and is not likely to be redeveloped for residential use, no further evaluation of the residential vapor intrusion pathway was performed.

6.1.2 Exposure Assessment

The objective of the exposure assessment section of an HHRA is to estimate the type and magnitude of human exposure to constituents at or originating from a site. This was accomplished by establishing assumptions about the potential for human exposure (e.g., exposed populations, exposure pathways, exposure frequency), calculating representative EPCs for each COPC, and modeling human exposure in the form of daily intakes (termed dermally absorbed dose [DAD] for dermal contact exposure) or inhalation exposure concentrations (ECs). These estimates of exposure were combined in the risk characterization with constituent-specific toxicity values to calculate incremental lifetime cancer risks and non-cancer hazards.

6.1.2.1 Current and Future Land Uses

The current and foreseeable future land use for the former Launch Area is industrial. The property is owned by the Town of Hamburg and used by the Highway Department for storage, office space, and maintenance. The Town of Hamburg police department uses the area of the former enlisted men's barracks along the southwestern property boundary as a police and firearm training center. A small arms range with an earthen backstop berm is located in the northwestern corner of the former Launch Area adjacent to the landfill.

The former Launch Area is zoned for residential-agricultural use (Town of Hamburg 2018). Residential properties are located approximately 500 feet south of the former Launch Area along Lakeview Road. However, future residential use of the former Launch Area is not considered a realistic or reasonable scenario based on the

current land use and ownership, proximity to the Hamburg Landfill, and presence of the underground silos. Per a conversation with the Town Engineer on November 21, 2019, redevelopment of the former Launch Area for future residential use is highly unlikely and is not part of the Town's plans (Personal communication with Mike Quinn 2019).

The former Control Area and Easement Area at the Nike Battery are northeast of the former Launch Area and are currently used as the Town of Hamburg's Lakeview Recreational Area, consisting of a playground, sledding hill, ball fields, and a BMX track. The former Control Area and Easement Area are not the subject of current investigations.

6.1.2.2 Potential Receptors and Exposure Pathways

Based on the current and most likely future land use, potential human receptors include on-site commercial/industrial indoor workers, on-site outdoor maintenance workers, on-site construction/utility workers, and off-site residents.

RAGS Part D Table 1 (see **Appendix I**) presents the exposure scenarios and receptor populations that were evaluated for the former Launch Area. The scenario time frame, source medium, exposure medium, exposure point, receptor population, receptor age, exposure route, type of analysis, and rationale for selection or exclusion of an exposure pathway are provided.

Generally, human exposure to COPCs in soil may occur through incidental ingestion, dermal contact, and inhalation (particulates and volatile constituents). Under the current and most likely future land use, direct exposure to COPCs in groundwater may occur through incidental ingestion, dermal contact, and inhalation (volatiles) if shallow groundwater is encountered during site excavation. Indirect exposure to volatile constituents in shallow groundwater could occur through inhalation of indoor air if an occupied building overlies affected groundwater.

Groundwater at the former Launch Area is not used as a drinking water source. Potable water is supplied to the former Nike Battery areas and nearby residents by the Erie County Water Authority, which receives surface water from Lake Erie and the Niagara River. Therefore, use of groundwater as drinking water is currently an incomplete exposure pathway. However, there are no restrictions that would limit future use of the surficial aquifer as a drinking water source. While, unlikely, there is the potential for groundwater to be used as drinking water by on-site commercial/industrial indoor workers and off-site nearby residents in the future. Therefore, these groundwater exposure pathways are potentially complete under hypothetical future exposure scenarios.

Based on a preliminary search of public databases containing well records (see **Appendix D**) and considering what is currently known about surrounding land uses (which are primarily residential), irrigation wells and industrial wells were not identified. There are no restrictions that would limit future use of the surficial aquifer for irrigation or industrial purposes. However, evaluation of the potable use scenario is considered protective of potential exposures via irrigation or industrial wells. Therefore, use of groundwater for irrigation or as industrial process water was not identified as a potential exposure scenario to be evaluated in the HHRA.

A graphical representation of complete or potentially complete exposure pathways for each receptor population is presented in the human health CSM (**Figure 6-1**). A complete exposure pathway includes a source, an exposure medium, an exposure route, and a receptor (USACE 2012). If any one of these elements is missing, the pathway is considered incomplete. A pathway is potentially complete when data are insufficient to conclude a pathway is complete (e.g., there is currently not an exposure point [drinking water well], or sampling has not been performed to confirm constituents are present in the assumed exposure medium [indoor and outdoor air]).

The HHRA evaluated the following complete or potentially complete exposure pathways:

On Site

- Current/most likely future on-site indoor commercial/industrial workers may be exposed to COPCs in indoor dust derived from surface soil via incidental ingestion and inhalation of wind-blown fugitive dust and volatiles.
- Current/most likely future on-site indoor commercial/industrial workers could be exposed to volatile COPCs present in underlying groundwater that migrates from shallow groundwater to indoor air of on-site buildings. However, as discussed in **Section 6.1.1**, no volatile constituents in overburden groundwater exceeded USEPA VISLs (USEPA 2021b) for a commercial scenario. Therefore, no further evaluation of the on-site commercial/industrial vapor intrusion pathway was performed.
- Under a hypothetical future scenario, on-site indoor commercial/industrial workers could be exposed to COPCs in groundwater via ingestion of groundwater used as potable water, dermal contact while washing hands, and inhalation of volatiles released to indoor air during potable use of groundwater. Although this exposure pathway is currently incomplete, there are no restrictions that would limit future use of the surficial aquifer as a drinking water source.
- Current/most likely future on-site outdoor maintenance workers may be exposed to COPCs in surface soil via incidental ingestion, dermal contact, and inhalation of wind-blown fugitive dust and volatiles.
- Current/most likely future on-site construction/utility workers may be exposed to COPCs in combined surface and subsurface soil via incidental ingestion, dermal contact, and inhalation of volatiles and dust during excavation.
- Given the shallow depth to groundwater, current/most likely future on-site construction/utility workers may be exposed to COPCs in groundwater via incidental ingestion, dermal contact, and inhalation of volatiles in shallow groundwater that infiltrates the bottom of an excavation.

Off Site

- Current/most likely future off-site residents could be exposed to volatile COPCs (if present in underlying groundwater) that migrate from shallow groundwater to indoor air of nearby residences. **Section 6.1.1** discussed that benzene is the only constituent that was detected at a concentration above residential VISLs in the overburden wells nearest to existing residential properties. However, benzene concentrations in two samples from the same well only slightly exceeded the residential VISL based on a target cancer risk of 1×10^{-6}. The sporadic nature of the benzene detections in groundwater is not indicative of a widespread release. Given the use of the former Launch Area as a town maintenance facility for more than 50 years, the presence of benzene in groundwater is not likely attributable to historical DoD activities. Based on these considerations and the fact that the former Launch Area is not used and is not likely to be redeveloped for residential use, no further evaluation of the residential vapor intrusion pathway was performed.
- Under a hypothetical future scenario, off-site residents may be exposed to COPCs in groundwater via ingestion of groundwater used as potable water, dermal contact while washing hands and showering, and inhalation of volatile compounds released to indoor air during household use of groundwater (e.g., clothes washing). Although this exposure pathway is currently incomplete, there are no restrictions that would limit future use of the surficial aquifer as a drinking water source.

6.1.2.3 Exposure Point Concentrations

To determine the constituent concentrations to which an individual might be exposed over many years, representative EPCs were calculated from the useable soil and groundwater data. The USEPA (1992, 1989) recommends that the arithmetic average concentration of the data be used for evaluating long-term exposure and that, because of the uncertainty associated with estimating the true average concentration at a site, the 95 percent (%) upper confidence limit (UCL) on the arithmetic average be used as the EPC. The 95% UCL concentration provides reasonable confidence that the true average will not be underestimated. The USEPA also indicates that, where there is a question about the distribution of the data, a statistical test should be used to identify the best distributional assumption for the dataset (USEPA 1992b).

The ProUCL® 5.1.002 (ProUCL) program developed by the USEPA's Technology Support Center for Monitoring and Site Characterization was used to test the distributional assumptions and calculate 95% UCL concentrations for the soil COPCs. When entering the soil data into ProUCL, if a COPC was not detected in a sample, the sample reporting limit was entered as a proxy concentration, and the sample result was coded as non-detect. ProUCL contains rigorous parametric and non-parametric statistical methods that can be used on full or uncensored datasets and on datasets with below detection limit observations (also called left-censored datasets). Depending on the distribution and 95% UCL estimation method, ProUCL will use only detected data or will incorporate detection limits.

The USEPA (2015) indicates that statistical estimates of EPCs may not be reliable for small datasets, or for those with only a few detected values (e.g., fewer than four to six). Generally, for soil datasets with fewer than eight samples or fewer than five detected values, the maximum detected concentration was used as the EPC. Where the 95% UCL concentration calculated by ProUCL is greater than the maximum detected concentration, the maximum detected concentration was retained as the EPC. **Appendix I** contains the ProUCL output for the soil COPCs.

Given that only two samples are available from each well, the maximum detected concentration for each COPC across all monitoring wells (excluding the upgradient monitoring well, MW-16) was used as the groundwater EPC. This approach is consistent with USEPA Office of Solid Waste and Emergency Response (OSWER) Directive 9283.1-42 (USEPA 2014a). The hydrogeological investigation demonstrated that the overburden and bedrock groundwater are in communication; therefore, a single EPC was used for each COPC to represent the aquifer (i.e., combined overburden and bedrock groundwater) and evaluate the potable use scenario. Field measurements indicated the depth to shallow groundwater ranges from approximately 4 to 10 feet bgs. The maximum detected concentration for each COPC across only the overburden wells (excluding MW-16) was used to evaluate the potential exposure of construction/utility workers to constituents in shallow groundwater.

EPCs for other media (i.e., outdoor and indoor air) were derived from numerical relationships between the chemical's concentration in soil or groundwater and the other medium based on chemical-specific properties and site-specific parameters (e.g., climatic conditions and soil type). Worksheets 4-1 through 4-4 in **Appendix I** provide the details of these calculations.

EPCs for particulates in outdoor air were estimated by multiplying the EPCs for the COPCs in soil by a particulate emission factor (PEF). The PEF is based on simplified soil-to-air transmission relationships described in Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites (USEPA 2002). The USEPA has derived a default PEF due to wind under passive conditions that is used to calculate the RSLs (USEPA 2021a). This default PEF (1.36E+09 m^3/kg) was used to estimate COPC concentrations in outdoor air for the on-site indoor commercial/industrial worker and on-site outdoor maintenance worker. A site-specific PEF was calculated for the on-site construction/utility worker using the equation for a construction scenario, available in

USEPA 2002. USEPA default values were used except for the Q/C variable presented in the site-specific PEF equation (Equation E-18; USEPA 2002), which is based on the local climate and size of the site.

EPCs for volatile COPCs in outdoor air were estimated by multiplying the EPCs for the COPCs in soil by chemical-specific volatilization factors (VFs) based on equations in USEPA 2002. Site-specific VFs were calculated using soil parameter (e.g., soil porosity) values specific to the predominant soil type encountered during the RI at the former Launch Area (Equation 4-8; USEPA 2002). Sub-chronic VFs were calculated for on-site construction/utility workers, for which the assumed exposure duration is 1 year (Equation 5-14; USEPA 2002).

EPCs for volatile COPCs in the outdoor air of an excavation were estimated by multiplying the EPCs for the COPCs in groundwater by a VF based on equations available in the Virginia Unified Risk Model (Virginia Department of Environmental Quality [VDEQ] 2019).

Finally, to evaluate inhalation of volatile COPCs that could be released to indoor air during potable use of the groundwater, EPCs for volatile COPCs in groundwater were multiplied by the VF (0.5 L/m^3) used to calculate the Tapwater RSLs (USEPA 2021a).

6.1.2.4 Estimates of Constituent Intake/Exposure

Estimates of chemical intake and exposure were developed to portray reasonable maximum exposure (RME) under current and future exposure scenarios. The RME scenario considers the highest exposure that might reasonably be expected to occur; one that is well above the average case of exposure but within the range of possibility. Use of RME parameter values to model baseline human health risks is a conservative approach, in that it yields upper bound cancer risk and non-cancer hazard estimates (USEPA 1989).

The RME parameters and the intake, exposure, and dose equations used to estimate human exposure are consistent with USEPA (1989, 2002, 2004, 2009, 2011, and 2014b) guidance and presented in the RAGS Part D Table 4 series in **Appendix I**. For commercial/industrial workers, outdoor maintenance workers, and residents, chronic exposures were estimated. For construction/utility workers, where the exposure duration is assumed to be 1 year, sub-chronic exposures were estimated.

6.1.3 Toxicity Assessment

The toxicity assessment (or dose-response assessment) section of an HHRA characterizes the relationship between the magnitude of exposure and the potential for an adverse health effect to occur. Toxicity assessment involves determining whether exposure to a constituent can increase the incidence of adverse health effects and characterizing the nature and strength of the evidence of causation. The toxicity information is then quantitatively evaluated, and the relationship between the dose of constituent received and the incidence of adverse health effects in the exposed population is evaluated.

6.1.3.1 Sources of Toxicity Data

The USEPA and other regulatory agencies have assessed the toxicity of numerous chemicals, and the guidance they provide was used in this HHRA. These include reference doses (RfDs) and reference concentrations (RfCs) for the evaluation of non-carcinogenic health effects from chronic and sub-chronic exposure to chemicals and cancer potency slope factors (CSFs) and unit risk factors (URFs) for evaluating incremental cancer risk from lifetime exposure to chemicals (i.e., excess lifetime cancer risks [ELCRs]).

Sources of toxicological information and toxicity values, in order of preference consistent with USEPA (2003) guidance, included:

- Tier 1 - Integrated Risk Information System (IRIS; USEPA 2021d). IRIS is an internet database containing current information on human health effects that may result from exposure to chemicals in the environment and has received internal and external scientific review.
- Tier 2 - Provisional Peer-Reviewed Toxicity Values (PPRTVs; USEPA 2021e). PPRTVs were developed by the USEPA Office of Research and Development/National Center for Environmental Assessment/Superfund Health Risk Technical Support Center and are available as chemical-specific issue papers.
- Tier 3 - Additional sources of toxicity information, including but not limited to the California Environmental Protection Agency (CalEPA) Office of Environmental Health Hazard Assessment's chronic reference exposure levels and cancer potency values, the ATSDR minimal risk levels, and toxicity values published in the USEPA Health Effects Assessment Summary Tables (HEAST) (USEPA 1997a).

6.1.3.2 Adverse, Non-cancer Health Effects

The NCP (USEPA 1990) indicates that acceptable exposure levels for chemicals with non-cancer health effects should represent concentration levels to which the human population, including sensitive subpopulations (e.g., the elderly, young children), may be exposed without adverse health effects during a lifetime or part of a lifetime, incorporating an adequate margin of safety. The potential for non-cancer health effects associated with oral and dermal exposures is evaluated by comparing an estimated chemical intake or DAD over a specified period with an RfD derived for a similar exposure period. The RfD is an estimate of a daily exposure level for the human population, including sensitive subpopulations, that is likely to be without an appreciable risk of deleterious effects during a lifetime. Therefore, the ratio of the intake or DAD to the RfD, termed the hazard quotient (HQ), assumes a level of exposure (i.e., the RfD) below which it is unlikely for even sensitive subpopulations to experience adverse health effects.

The potential for non-cancer health effects associated with inhalation exposures is evaluated by comparing COPC concentrations in air (i.e., ECs) to RfCs derived for a similar exposure period (USEPA 2009). HQs were estimated by calculating the ratio of the EC to the RfC.

The USEPA has indicated that RfDs and RfCs are based on the assumption that thresholds exist for certain toxic effects and that they often carry uncertainty spanning perhaps an order of magnitude. Chronic RfDs and RfCs were specifically developed to be protective of long-term exposure to a chemical. For construction/utility workers, whose exposure is assumed to occur over a 1-year period, sub-chronic RfDs and RfCs were used where available from the USEPA RSL Subchronic Tables. Chronic RfDs and RfCs were used as conservative approximations where sub-chronic values were not available.

The RfDs and RfCs for the characterization of potential chronic and sub-chronic non-cancer health effects via oral and inhalation exposures are presented in RAGS Part D Tables 5.1 and 5.2 (see **Appendix I**), respectively, along with the primary target organ, the combined uncertainty and modifying factors used in the derivation of the RfD and RfC, and the source of the RfD and RfC. Generally, order-of-magnitude (i.e., in increments of 10) uncertainty factors reflect the various types of toxicological data (e.g., a laboratory animal study extrapolated to the human condition) used to estimate the RfDs and RfCs. Modifying factors, which can range from greater than zero to 10, reflect qualitative professional judgment regarding scientific uncertainties (e.g., the completeness of the overall database) not covered by the uncertainty factor. Application of the uncertainty and modifying factors is intended to result in RfDs and RfCs that are protective of human health.

RfDs are not available to evaluate dermal exposure. In their absence, oral RfDs were used and adjusted following USEPA (2004) guidance to reflect absorbed dose. Dermal RfDs were calculated by multiplying oral RfDs by gastrointestinal absorption efficiency factors. This allows for comparison between exposures estimated as absorbed doses and toxicity values expressed as absorbed doses. The oral-to-dermal adjustment factors and the adjusted RfDs are presented in RAGS Part D Table 5.1 (see **Appendix I**).

6.1.3.3 Excess Lifetime Cancer Risks

Regardless of the mechanism of effect, risk evaluation methods employed by the USEPA generally derive from the hypothesis that thresholds for cancer induction by carcinogens do not exist, and that the dose-response relationship is linear at low doses. Based on this hypothesis, USEPA has derived estimates of incremental cancer risk from lifetime exposure to potential carcinogens. This is accomplished by establishing the carcinogenic potency of the chemical through critical evaluation of the various test data and fitting dose-response data to a low-dose extrapolation model. The CSF, which describes the dose-response relationship at low doses, is expressed as a function of intake (i.e., $[mg/kg\text{-}day]^{-1}$).

ELCRs from oral and dermal exposures are estimated by multiplying an estimated daily intake or DAD prorated over 70 years by the CSF. The resulting risk estimate is expressed as a unitless probability (e.g., 2×10^{-5} or 2 in 100,000) of an individual developing cancer. The unitless probability represents the incremental (or increased) lifetime cancer risk associated with the estimated exposure above the background risk of developing cancer. This linear equation is valid only at low risk levels (i.e., below estimated risks of 0.01). According to the USEPA (1989), this approach does not necessarily provide a realistic prediction of risk. The true value of the risk at trace ambient concentrations is unknown and may be as low as zero.

To evaluate inhalation exposures, inhalation unit risks (IURs) that relate cancer potency to a chemical concentration in air were used instead of CSFs (USEPA 2009). ELCRs from inhalation exposure were estimated by multiplying the EC by the URF.

Oral CSFs and IURs are presented in RAGS Part D Table 6.1 and Table 6.2, respectively, in **Appendix I**. The USEPA weight-of-evidence classification under the 1986 Guidelines for Carcinogen Risk Assessment (USEPA 1986) or cancer guideline description under USEPA's revised carcinogen risk assessment guidelines (USEPA 2005c) for carcinogenicity and the source of slope factors or unit risk factors are also presented in RAGS Part D Tables 6.1 and 6.2 (see **Appendix I**).

The USEPA indicates that early-life exposure to carcinogenic chemicals with a mutagenic mode of action can result in a greater contribution to cancers appearing later in life (USEPA 2005d). To account for this, age-dependent adjustment factors (ADAFs) were applied to the oral CSFs and IURs for carcinogenic COPCs with a mutagenic mode of action (e.g., benzo(a)pyrene). The USEPA (2005d) recommends a ten-fold adjustment for exposure during 0 and 2 years of age, a three-fold adjustment for exposures between 2 and less than 16 years of age, and no adjustment for exposures for individuals 16 years and older. For the current/future resident child, an ADAF of 10 was applied to the cancer toxicity values to evaluate exposure from the ages 0 to 2 (ED = 2 years), and an ADAF of 3 was applied to evaluate exposure from the ages of 2 to 6 (ED = 4 years).

As with RfDs, the USEPA has not derived CSFs to evaluate dermal exposure. In their absence, CSFs for oral exposure were used and adjusted per USEPA guidance to reflect absorbed dose. Dermal CSFs were calculated by dividing the oral CSFs by gastrointestinal absorption efficiency factors. This allows for risk estimation based on exposures estimated as absorbed doses and CSFs expressed as absorbed doses. The oral-to-dermal adjustment factors and the adjusted CSFs are presented in RAGS Part D Table 6.1 (see **Appendix I**).

6.1.3.4 Chemical Mixtures

USEPA guidance was also used to evaluate the overall potential for non-cancer health effects and ELCRs from exposure to multiple chemicals. For the evaluation of non-cancer health effects, USEPA guidance assumes that sub-threshold exposures to several chemicals at the same time could result in an adverse health effect. The sum of the HQs (for individual chemicals, exposure routes, exposure pathways, or potentially exposed populations) is termed the HI. Generally, HIs are only used in the evaluation of a mixture of chemicals that induce the same effect by the same mechanism of action. In this HHRA, the HIs of a mixture of chemicals that can have different effects were used as a screening-level approach, as recommended by the USEPA (1989). This approach may overestimate the likelihood of adverse, non-cancer health effects. Therefore, for HIs greater than 1 from the mixture, toxic organ-specific HIs were calculated based on the toxicological endpoint used to derive the RfD.

For the evaluation of carcinogenic risks, USEPA guidance indicates that the individual risks associated with exposure to each chemical can be summed. This approach was used in this HHRA and assumes dose-additivity consistent with the Guidelines for the Health Risk Assessment of Chemical Mixtures (USEPA 1986) and Supplementary Guidance for Conducting Human Health Risk Assessment for Chemical Mixtures (USEPA 2000) and independence of action by the chemicals involved (i.e., that there are no synergistic or antagonistic chemical interactions and that all chemicals produce the same effect: cancer).

6.1.4 Risk Characterization

The risk characterization section of an HHRA involves combining exposure estimates with toxicity information to generate ELCRs and non-cancer hazards for each human exposure scenario evaluated in the HHRA. In this section, the non-cancer hazards and ELCRs are presented and discussed. Additionally, sources of uncertainty in this HHRA are documented and discussed.

6.1.4.1 Non-cancer Hazards

The potential for non-cancer health effects associated with constituent exposure was evaluated by calculating the ratio of an estimated intake or EC over a specified period with a chemical-specific RfD or RfC derived for a similar exposure period. The RfD or RfC is an estimate of a daily exposure level for the human population, including sensitive subpopulations, that is likely to be without an appreciable risk of deleterious effects during a lifetime. The non-cancer HQ therefore assumes a level of exposure below which it is unlikely for even sensitive subpopulations to experience adverse health effects. The total individual HQs were summed for each exposure pathway and scenario to yield HIs representative of the potential for adverse, non-cancer health effects from cumulative exposure. For the non-cancer assessment, exposure scenarios with an HI greater than 1 (i.e., 1E+00) are of potential concern. Where HIs from the mixture of chemicals were greater than 1, toxic organ-specific HIs were calculated based on the toxicological endpoint used to derive the RfD.

RAGS Part D Tables 7.1 through 7.6 in **Appendix I** present the calculation of non-cancer hazards for each receptor and exposure pathway. RAGS Part D Tables 9.1 through 9.6 (in **Appendix I**) summarize the non-cancer HQs by COPC (across all exposure routes), and RAGS Part D Tables 10.1 through 10.6 (in **Appendix I**, if applicable) include only the predominant contributors (if any) to the non-cancer HIs greater than 1.

Current/Future On-site Indoor Commercial/Industrial Workers

RAGS Part D Tables 7.1 and 9.1 show the non-cancer HQs for the current/future on-site indoor commercial/industrial worker exposure to surface soil (0 to 1 feet bgs). The receptor total HI for this exposure pathway is 0.02 and is below the acceptable level of 1.

Current/Future On-site Outdoor Maintenance Workers

RAGS Part D Tables 7.2 and 9.2 show the non-cancer HQs for the current/future on-site outdoor maintenance worker exposure to surface soil (0 to 1 feet bgs). The receptor total HI for this exposure pathway is 0.04 and is below the acceptable level of 1.

Current/Future On-site Construction/Utility Workers

RAGS Part D Table 7.3 shows the non-cancer HQs for the current/future on-site construction/utility worker exposure to surface soil and subsurface soil (0 to 10 feet bgs). The receptor total HI for this exposure pathway is 0.06 and is below the acceptable level of 1.

RAGS Part D Table 7.4 shows the non-cancer HQs for the current/future on-site construction/utility worker exposure to shallow (i.e., overburden) groundwater. The receptor total HI for this exposure pathway is 0.8 and is below the acceptable level of 1.

The combined RAGS Part D Table 9.3 and 9.4 shows the combined HI for the current/future on-site construction/utility worker exposure to both soil and groundwater is 0.8 and is below the acceptable level of 1.

Hypothetical Future On-site Indoor Commercial/Industrial Workers

RAGS Part D Table 7.5 shows the non-cancer HQs for the hypothetical future on-site indoor commercial/industrial worker exposure to groundwater used for potable purposes. Although this exposure pathway is currently incomplete, there are no restrictions that would limit future use of the surficial aquifer as a drinking water source. The receptor total HI for this hypothetical future exposure pathway is 3. The predominant contributor to the potential non-cancer hazard was thallium.

The combined RAGS Part D Table 9.1 and 9.5 (and combined Table 10.1 and 10.5) shows the combined HI for the hypothetical future on-site indoor commercial/industrial worker exposure to both soil and groundwater is also 3. The only target organ-specific HI greater than 1 was for dermal/skin effects (HI = 2, predominantly from ingestion of thallium in groundwater).

RAGS Part D Table 2.3 shows thallium was detected in 20 of 39 groundwater samples. However, concentrations in only two samples exceeded the background value of 0.82 µg/L. The HHRA likely overestimated the thallium exposure concentration since a maximum of 1.4 µg/L was used to evaluate the potable use scenario, and the mean of detected thallium concentrations is 0.32 µg/L. Thallium in the environment may be a result of coal use and/or emissions, and its previous use at the site has not been reported. Additionally, given the use of the former Launch Area as a town maintenance facility for more than 50 years, thallium is not likely attributable to historical DoD activities at the former Launch Area.

Hypothetical Future Off-site Residents

RAGS Part D Tables 7.6, 9.6, and 10.6 show the non-cancer HQs for the hypothetical future off-site residential exposure to groundwater used for potable purposes. Although this exposure pathway is currently incomplete, there are no restrictions that would limit future use of the surficial aquifer as a drinking water source. The receptor total HI for this hypothetical future exposure pathway is 20. The predominant contributors to the potential non-cancer hazard were benzene, bis(2-ethylhexyl)phthalate, and thallium. Target organ-specific HIs greater than 1 were calculated for dermal/skin effects (HI = 7, predominantly from ingestion of thallium), immune system effects (HI = 6, predominantly from ingestion and inhalation of benzene) and liver effects (HI = 5, predominantly from dermal contact with bis[2-ethylhexyl]phthalate).

As discussed above, thallium was detected in 20 of 39 groundwater samples, however concentrations in only two samples exceeded the background value of 0.82 µg/L. The HHRA likely overestimated the thallium exposure

concentration since a maximum of 1.4 µg/L was used, and the mean of detected thallium concentrations was 0.32 µg/L. Thallium in the environment may be a result of coal use and/or emissions, and its previous use at the site has not been reported. bis(2-Ethylhexyl)phthalate is a common laboratory contaminant and is likely an artifact of sample analysis. A review of lab reports for a subset of the highest bis(2-ethylhexyl)phthalate results in soil indicated results were biased high with potential for lab contamination. Additionally, bis(2-ethylhexyl)phthalate was detected in only 4 of the 39 groundwater samples (at concentrations ranging from 1.9 to 28 µg/L), and a single detected concentration (28 µg/L in NHFLA-MW4OB-DEC2020) exceeded the Tapwater RSL of 5.6 µg/L. bis(2-Ethylhexyl)phthalate was also detected in one of the two upgradient groundwater samples at an estimated concentration of 2.2 µg/L. Benzene was detected in 8 of the 39 groundwater samples, at concentrations ranging from 0.33 to 210 µg/L, however the second highest concentration was 11 µg/L. Benzene concentrations exceeded the Tapwater RSL at three locations (MW-4, MW-5, and MW-9). Benzene was not detected (< 0.500 µg/L) in upgradient groundwater samples. The sporadic nature of the benzene detections is not indicative of a widespread release. Finally, given the use of the former Launch Area as a town maintenance facility for more than 50 years, the presence of these constituents in groundwater is not likely attributable to historical DoD activities at the former Launch Area.

6.1.4.2 Excess Lifetime Cancer Risks

Individual ELCRs are expressed as unitless probabilities of a person developing cancer. The total individual (i.e., COPC-specific) ELCRs were summed for each exposure pathway and scenario to arrive at an estimate of the potential for cancer risk from cumulative exposure. For known or suspected carcinogens, the NCP established that acceptable exposure levels are generally concentration levels that represent an incremental upper-bound lifetime cancer risk in the range from 1×10^{-4} (i.e., 1E-04 or 1 in 10,000) to 1×10^{-6} (i.e., 1E-06 or 1 in 1,000,000) or less (USEPA 1990). The ELCRs estimated for each exposure scenario are therefore compared to this risk range established by the NCP.

RAGS Part D Tables 7.1 through 7.6 in **Appendix I** present the calculation of ELCRs for each receptor and exposure pathway. RAGS Part D Tables 9.1 through 9.6 (in **Appendix I**) summarize the ELCRs by COPC (across all exposure routes), and RAGS Part D Tables 10.1 through 10.6 (in **Appendix I**, if applicable) include only the predominant contributors to the total ELCRs greater than 1E-04.

Current/Future On-site Indoor Commercial/Industrial Workers

RAGS Part D Tables 7.1 and 9.1 show the cancer risks for the current/future on-site indoor commercial/industrial worker exposure to surface soil (0 to 1 feet bgs). The total ELCR for this exposure pathway is 6E-07 and is below the acceptable risk range of 1×10^{-4} to 1×10^{-6}.

Current/Future On-site Outdoor Maintenance Workers

RAGS Part D Tables 7.2 and 9.2 show the cancer risks for the current/future on-site outdoor maintenance worker exposure to surface soil (0 to 1 feet bgs). The total ELCR for this exposure pathway is 2E-06 and is within the acceptable risk range of 1×10^{-4} to 1×10^{-6}.

Current/Future On-site Construction/Utility Workers

RAGS Part D Tables 7.3 shows the cancer risks for the current/future on-site construction/utility worker exposure to surface soil and subsurface soil (0 to 10 feet bgs). The total ELCR for this exposure pathway is 5E-08 and is below the acceptable risk range of 1×10^{-4} to 1×10^{-6}.

RAGS Part D Tables 7.4 shows the cancer risks for the current/future on-site construction/utility worker exposure to shallow (i.e., overburden) groundwater. The total ELCR for this exposure pathway is 3E-06 and is within the acceptable risk range of 1×10^{-4} to 1×10^{-6}.

The combined RAGS Part D Table 9.3 and 9.4 shows the total ELCR for the current/future on-site construction/utility worker exposure to both soil and groundwater is 3E-06 and is within the acceptable risk range of 1×10^{-4} to 1×10^{-6}.

Hypothetical Future On-site Indoor Commercial/Industrial Workers

RAGS Part D Table 7.5 shows the cancer risks for the hypothetical future on-site indoor commercial/industrial worker exposure to groundwater used for potable purposes. Although this exposure pathway is currently incomplete, there are no restrictions that would limit future use of the surficial aquifer as a drinking water source. The total ELCR for this hypothetical future exposure pathway is 7E-05, which is within the acceptable risk range of 1×10^{-4} to 1×10^{-6}.

The combined RAGS Part D Table 9.1 and 9.5 (and combined Table 10.1 and 10.5) shows the total ELCR for the hypothetical future on-site indoor commercial/industrial worker exposure to both soil and groundwater is also 7E-05.

Hypothetical Future Off-site Residents

RAGS Part D Tables 7.6, 9.6, and 10.6 show the cancer risks for the hypothetical future off-site residential exposure to groundwater used for potable purposes. Although this exposure pathway is currently incomplete, there are no restrictions that would limit future use of the surficial aquifer as a drinking water source. The total ELCR for this hypothetical future exposure pathway is 1E-03. The predominant contributors to the potential cancer risk were benzene and bis(2-ethylhexyl)phthalate.

As discussed above, bis(2-ethylhexyl)phthalate is a common laboratory contaminant and is likely an artifact of sample analysis. Additionally, bis(2-ethylhexyl)phthalate was detected in only 4 of the 39 groundwater samples (at concentrations ranging from 1.9 to 28 µg/L), and a single detected concentration (28 µg/L in NHFLA-MW4OB-DEC2020) exceeded the Tapwater RSL of 5.6 µg/L. bis(2-Ethylhexyl)phthalate was also detected in one of the two upgradient groundwater samples at an estimated concentration of 2.2 µg/L. Benzene was detected in 8 of the 39 groundwater samples, at concentrations ranging from 0.33 to 210 µg/L, however the second highest concentration was 11 µg/L. Benzene concentrations exceeded the Tapwater RSL at three locations (MW-4, MW-5, and MW-9). Benzene was not detected (< 0.500 µg/L) in upgradient groundwater samples. The sporadic nature of the benzene detections is not indicative of a widespread release. Finally, given the use of the former Launch Area as a town maintenance facility for more than 50 years, the presence of these constituents in groundwater is not likely attributable to historical DoD activities at the former Launch Area.

6.1.5 HHRA Summary and Conclusions

This HHRA evaluated potential risks to human health associated with the former Launch Area. The HHRA relied on soil and groundwater data collected during the RI.

Exposure scenarios based on the current and most likely future industrial land use (i.e., current/most likely future scenarios) included indoor commercial/industrial worker exposure to surface soil, outdoor maintenance worker exposure to surface soil, and construction/utility worker exposure to surface and subsurface soil and shallow (i.e., overburden) groundwater. The potential for vapor intrusion from overburden groundwater to indoor air of on-site buildings was also evaluated, and no volatile constituents in overburden groundwater were detected at concentrations greater than commercial VISLs associated with a cancer risk of 1×10^{-6} or a non-cancer HQ of 0.1.

The potential for vapor intrusion from overburden groundwater to indoor air of off-site nearby residences was evaluated, and benzene in a single overburden well at the former Launch Area was detected at concentrations greater than residential VISLs (based on 1×10^{-6} cancer risk or 0.1 HQ). However, no further evaluation was conducted because only two of the ten benzene concentrations in the selected overburden monitoring wells exceeded the residential VISL, and the maximum detected concentration was twice the residential VISL based on 1×10^{-6} indicating the estimated residential cancer risk (2E-06) would be within acceptable levels. Although potable water is supplied to the former Nike Battery areas and nearby residents by the Erie County Water Authority, there are no restrictions that would limit future use of the surficial aquifer as a drinking water source. Therefore, a hypothetical future potable use scenario was evaluated for on-site commercial/industrial workers and off-site residents.

Exhibit 6-1 summarizes the cancer risks and non-cancer hazard indices for each exposure scenario (i.e., human receptor and exposure pathway) evaluated in the HHRA.

Exhibit 6-1: Summary of Excess Lifetime Cancer Risks and Non-cancer Hazard Indices

Scenario Timeframe	Receptor Population	Exposure Medium	Excess Lifetime Cancer Risk	Noncancer Hazard Index
Current / Most Likely Future	Indoor Commercial/Industrial Worker	Surface Soil (0 to 1-foot bgs)	6E-07	2E-02
	Outdoor Maintenance Worker	Surface Soil (0 to 1-foot bgs)	2E-06	4E-02
	Construction/Utility Worker	Surface and Subsurface Soil (0 to 10 feet bgs)	5E-08	6E-02
		Shallow Groundwater	3E-06	8E-01
Hypothetical Future	Indoor Commercial/Industrial Worker	Overburden and Bedrock Groundwater (Potable Use)	7E-05	3E+00
	Off-site Resident	Overburden and Bedrock Groundwater (Potable Use)	1E-03	2E+01

Based on the assumptions regarding the potential for human exposure and constituent toxicity used in the HHRA:

- Receptor-total HIs were less than 1 and ELCRs were less than or within the acceptable risk range of 1×10^{-4} to 1×10^{-6} (i.e., 1E-04 to 1E-06) for all current/most likely future on-site worker exposure scenarios.
- The total HI for the hypothetical future on-site commercial/industrial potable use exposure pathway was 3 and for the hypothetical future off-site residential potable use exposure pathway was 20. The predominant contributor to the potential commercial/industrial non-cancer hazard was thallium. The predominant contributors to the residential non-cancer hazard were benzene, bis(2-ethylhexyl)phthalate, and thallium.
- The ELCR for the hypothetical future on-site commercial/industrial potable use exposure pathway was 7E-05 and for the hypothetical future off-site residential potable use exposure pathway was 1E-03. ELCRs greater than 1E-04 were estimated for benzene and bis(2-ethylhexyl)phthalate.

Benzene was detected in 8 of the 39 groundwater samples, at concentrations ranging from 0.33 to 210 µg/L, however the second highest concentration was 11 µg/L. Benzene concentrations exceeded the Tapwater RSL at three locations (MW-4, MW-5, and MW-9). Benzene was not detected (< 0.500 µg/L) in upgradient groundwater samples. The sporadic nature of the benzene detections in groundwater is not indicative of a widespread release. bis(2-Ethylhexyl)phthalate was infrequently detected (4 of 39 samples) in groundwater, and a single detected concentration exceeded the Tapwater RSL of 5.6 µg/L. bis(2-Ethylhexyl)phthalate was also detected in upgradient groundwater at an estimated concentration of 2.2 µg/L. Additionally, bis(2-ethylhexyl)phthalate is a common

laboratory contaminant and is likely an artifact of sample analysis. Thallium was detected in half the overburden and bedrock groundwater samples, however concentrations in only two samples exceeded the background value of 0.82 µg/L. The HHRA likely overestimated the thallium exposure concentration since a maximum of 1.4 µg/L was used to evaluate the potable use scenario and the mean of detected thallium concentrations was 0.32 µg/L. Thallium in the environment may be a result of coal use and/or emissions, and its previous use at the site has not been reported. Additionally, the groundwater metals data evaluation offers strong evidence to support that groundwater conditions reflect impacts of a more recent origin (e.g., from the storage/transport/use of road salt at the site). Given the use of the former Launch Area as a town maintenance facility for more than 50 years, the presence of these constituents in groundwater is not likely attributable to historical DoD activities.

6.2 Screening Level Ecological Risk Assessment

This SLERA evaluates potential ecological risk at the former Launch Area. The SLERA process included habitat characterization, identification of ecological receptors and potentially complete exposure pathways, and selection of constituents of potential ecological concern (COPECs). The SLERA then evaluated potential risks to ecological receptors by comparing site data for each COPEC to ecotoxicological benchmarks to identify ecological constituents of concern (COCs). The SLERA results will inform the RI process and support potential remedial decisions.

6.2.1 Screening-Level Ecological Risk Assessment Approach

The SLERA followed the process detailed within the approved RAWP (JV 2020) and is consistent with the technical guidance from USEPA (1997b) Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments and USACE (2010) Environmental Quality – Risk Assessment Handbook, Volume II: Environmental Evaluation.

The USEPA ecological risk assessment guidance describes an eight-step process with several scientific management/decision points (SMDPs). This SLERA comprises Steps 1, 2 and 3a of the process. Step 1 (Screening-Level Problem Formulation and Ecological Effects Evaluation) and Step 2 (Screening-Level Preliminary Exposure Estimate and Risk Calculation) are the initial SLERA in which analytes that are unlikely to pose ecological risks are eliminated from further consideration. Step 3a consists of refinement screening where less conservative assumptions are considered to further evaluate the potential for ecological risk. The SLERA concludes with an SMDP determining whether contaminants from the site pose an ecological threat. If there are sufficient data to determine that ecological risks are negligible, the ecological risk assessment is completed at this step with a finding of negligible risk.

As part of the SLERA process (Step 1), a habitat assessment of the former Launch Area was conducted. The habitat assessment included documentation of cover types on site and in the site vicinity. The habitat assessment also included a wildlife survey to document potential ecological resources. Information from the U.S. Fish and Wildlife Service (USFWS) and New York NHP was also reviewed to determine the potential occurrence of threatened and endangered species or critical habitats. Information from the habitat assessment was used in the SLERA to evaluate the potential for ecological exposure to constituents in on-site media.

The SLERA also includes Step 2 of the ecological risk assessment (ERA) process, which is the screening-level exposure estimate and risk calculation. The SLERA identified ecological COCs by comparing the maximum detected concentrations to the lowest of the screening benchmarks. Ecological COC selection also considers background concentrations and FOD. Subsequently, the SLERA refinement (Step 3a) includes a comparison of

arithmetic mean concentrations to benchmarks to further evaluate the potential for population-level ecological risks from exposure across the site.

The COCs were evaluated in the SLERA process to identify the potential for ecological risk to various receptor groups (i.e., plants, soil invertebrates, birds, and mammals). The SLERA estimated risk by comparing COC concentrations with conservative ecotoxicological screening values for each group of ecological receptors. The data used in the screening included only those data from the former Launch Area that represent potential habitat for ecological receptors (see **Section 6.2.3.1**). Much of the former Launch Area is developed by the Town of Hamburg Highway Department and consists of buildings, parking lots, storage areas, and roads. Ecological exposure to soil in these areas is not possible; therefore, data from gravel areas were not considered in the SLERA.

The data representative of potential habitat areas were compared to ecotoxicological benchmarks as a conservative assessment of potential ecological risks. These benchmarks represent generic non-site-specific screening values available from USEPA and other sources. The SLERA conservatively compared the maximum detected concentrations to the screening benchmarks to estimate an HQ, which was calculated as the ratio of the detected concentration to the screening benchmark. The SLERA uses maximum detected concentrations in the initial screen (instead of the 95% UCL) to be consistent with the SLERA process flow chart (**Figure 6-2a**) and reflects the conservative nature of the SLERA.

Consistent with the SLERA process flow chart (**Figure 6-2b**), this SLERA also included a SLERA refinement step (Step 3a). This SLERA refinement step supported the SMDP and aided in the determination of whether: 1) risks to ecological receptors are negligible and no further assessment is warranted; 2) potential risks are still indicated and a more detailed baseline ecological risk assessment (BERA) is required; or 3) insufficient information to determine if risk is acceptable or not and a BERA is required.

6.2.2 Screening Level Problem Formulation

This section represents the screening level problem formulation for the SLERA. The problem formulation describes the physical attributes of the former Launch Area, characterizes ecological habitat, and identifies potential ecological receptors and exposure pathways. The problem formulation used this information to develop the ecological CSM for the former Launch Area.

6.2.2.1 Site Description

The former Launch Area is bound on the north by Interstate 90; on the west by the Easement Area; on the east by residential areas; and on the south by residential areas, Lakeview Road, and Eighteen Mile Creek. A closed and capped landfill, formerly operated by the Town, is located north of and adjacent to the former Launch Area. As described in **Section 2.2**, the former Launch Area is currently used by the Town of Hamburg's Highway Department for office space, truck garage space, a lay-down yard, and storage of gravel piles and road salt. Conditions of the former Launch Area reflect the active usage, and most of the area consists of asphalt, concrete, buildings, and maintained mowed field. There are no vernal pools or permanent surface waters on site.

6.2.2.2 Ecological Characterization

A habitat assessment of the former Launch Area was conducted on May 19, 2020. The purpose of the habitat characterization was to document ecological habitat, identify potential ecological receptors, and evaluate the potential for ecological exposure to site COPECs. Natural communities were characterized using the New York NHP's Ecological Communities of New York State (Edinger et al. 2014). Representative photographs from the habitat assessment are included in **Appendix A**.

The former Launch Area lies within the Eighteen Mile Creek watershed and is within the greater Lake Erie drainage basin. Observations from the habitat characterization verified that much of the area is covered with asphalt, concrete, and buildings, and these areas do not represent habitat for ecological receptors. Observations also indicated that the manmade drainage ditches on site are ephemeral and relatively small (approximately 2 feet wide and 6 inches deep) and do not provide significant habitat for aquatic ecological receptors. For example, reptiles/amphibians were not observed during the habitat assessment.

The major cover types identified on site (and in the immediate vicinity) are depicted on **Figure 6-3** and described below.

- Residential/Commercial/Industrial: Most of the site and surrounding land use is residential and commercial and classified as a terrestrial cultural system. Terrestrial cultural systems are communities that are created, maintained, or modified by human activities to such an extent that the composition of the substrate and the resident communities are substantially altered from those that existed before human influence (Edinger et al. 2014). This cover type comprises several subsystems including buildings (classified as urban or rural structures), community parks and residential grounds (classified as mowed lawn with trees and mowed lawn subsystems), residential gardens, and roadside borders (classified as mowed roadside pathway and herbicide-sprayed roadside/pathway subsystems). This cover type also includes commercial or industrial buildings (classified as urban or rural structure exterior subsystem), as well as vacant lots, railroads and paved or unpaved roads/paths, which may include parking lots. Most of the site proper fits this site classification. The residential/commercial/industrial areas provide limited habitat for ecological receptors.
- Successional Southern Hardwood Forest: The successional southern hardwood forest cover type is a more natural cover type characterized as having more than 60 percent coverage by trees. This cover type is a mixed forest on land that has been previously cleared of trees. This cover type exists outside of the site boundary in two areas: north of the Hamburg Landfill and south of the former Launch Area. The forested areas (which do not occur within the site boundaries) likely provide habitat for a diverse group of ecological resources.
- Successional Old Field: This cover type includes ground cover that is predominantly herbaceous with scattered shrubs and has less than 25 percent coverage by trees. This land is composed of previously cleared land that is now undergoing the regrowth of vegetation, primarily dominated by forbs and grasses. The successional old field does not occur on site except along the western and northern site boundaries, where the cover type occurs along the eastern portion of the site (on top of the Hamburg Landfill) and north of the former Launch Area. The successional old field areas provide habitat for a diverse group of ecological resources.
- Wetlands: The NYSDEC Environmental Resource Mapper does not identify any regulated wetlands on site (https://gisservices.dec.ny.gov/gis/erm/ ; **Figure 6-4**). However, a small (less than 1 acre) depression of the maintained mowed field along the east side of the site has been colonized by wetland-type vegetation (e.g., bulrush). Although the area supports wetland vegetation, it is not high-quality habitat because the field is periodically mowed. Wetland vegetation also occurs immediately southwest of the site boundary. Given their small size and periodic mowing, these areas provide minimal habitat for ecological resources.

- Surface Waters: Manmade drainage ditches exist in several areas of the site. These ditches are ephemeral and contain water seasonally. Other surface water bodies in the vicinity of the former Launch Area include the mitigation pond (approximately 0.5 mile north of the site), the twin pond area (approximately 1 mile north of the site), and Eighteen Mile Creek (approximately 1 mile southeast of the site). Complete transport mechanisms for site-related constituents to reach these areas have not been identified, and they were not evaluated in the SLERA.

During the habitat assessment, the field team recorded observed plant species for each cover type. A list of observed plant species (and species expected to occur) is provided in **Table 6-1**. The observed and typical plants include various species of herbaceous plants (e.g., dandelion, goldenrod, thistle, grasses), shrubs (e.g., dogwood, pussy willow, honeysuckle), and trees (e.g., black cherry, cottonwood).

The habitat assessment also included recording the presence of potential ecological receptors (e.g., birds, mammals) based on direct visual observation, calls, tracks, scat, and nesting/denning sites. A list of wildlife species observed (or expected to occur) is presented in **Table 6-2**. As expected, very few wildlife species were observed within the boundary of the former Launch Area due to the lack of habitat in most areas and high level of human disturbance. In adjacent areas with potential habitat (e.g., forested and field areas adjacent to site boundaries), a variety of species or evidence (e.g., scat and/or tracks) thereof was observed, including birds (e.g., American robin, blue jay, Canada goose, mourning dove) and mammals (e.g., grey squirrel, raccoon, coyote, red fox). No reptiles/amphibians were observed on site, which is expected given the lack of permanent surface water bodies within the former Launch Area.

6.2.2.3 Threatened and Endangered Species

A review of state and federally listed threatened and endangered species that may occur near or on site was conducted using the USFWS Integrated Planning and Consultation (IPaC) online resource tool (https://ecos.fws.gov/ipac/location/index). According to the USFWS, the federally listed threatened northern long-eared bat may be present within Erie County, New York; although no critical habitat was identified for this location from the IPaC information (USFWS 2019). Based on the ecological characterization performed during the habitat assessment, habitat for the northern long-eared bat is not likely based on the small area of forested habitat found to provide adequate summer roosting habitat.

Nine species of migratory birds were identified under the Birds of Conservation Concern designation to potentially occur within Erie County seasonally. Of the nine, six of them are shore birds or raptors, which prefer habitat with more surface water features. There are no permanent or colonized surface water features on the site. The additional three migratory bird species include bobolink, red-headed woodpecker, and wood thrush. The redheaded woodpecker and wood thrush prefer mature trees and forest in which to forage and breed, while the bobolink prefers hayfields and meadows. The site is characterized by mostly disturbed habitat and maintained mowed lawn; therefore, it is unlikely to find these species at the site due to a lack of suitable habitat.

In addition to the federal database query, a New York State Natural Heritage Request was submitted on May 12, 2020. On June 12, 2020, the NHP responded that there are no records of rare or state-listed animals, plants, or significant natural communities at the site or in its immediate vicinity.

Given the overall lack of habitat across most of the former Launch Area, the presence of threatened and endangered species or critical habitat is not expected.

6.2.2.4 Ecological Receptors and Exposure Pathways

This section identifies exposure pathways and potential receptors that may be exposed to COPECs in environmental media. Potential ecological receptors can be exposed directly (e.g., incidental soil ingestion or direct contact) or indirectly through the food web (e.g., dietary ingestion). An exposure pathway includes the following elements: 1) constituent source; 2) release mechanism to the environment; 3) transport medium; 4) receptor contact at the exposure point; and 5) exposure route. An exposure pathway may be classified as complete or potentially complete if all five elements are present. If an element is missing, the exposure pathway is considered incomplete and is generally excluded from evaluation.

Important features that need to be considered when evaluating whether an exposure pathway is complete include the COPEC concentrations in different media and their respective locations, the physical and chemical properties of the COPECs, and the locations of environmentally sensitive areas. Additional considerations (especially for this site) are the overall habitat quality and lack of ecological receptors across much of the site.

Potential ecological receptors and exposure pathways are identified in the schematic ecological CSM diagram (**Figure 6-5**). The diagram details the primary source of contamination and illustrates how chemicals at the original point of release may move in the environment (as described in **Section 5 – Conceptual Site Model**). The CSM also identifies ecological receptors and potential exposure pathways (e.g., ingestion of contaminants in soil or food, direct contact with contaminated media). For wildlife (i.e., birds and mammals), oral exposures were predominantly considered. Potential risks from substances via inhalation or dermal exposures are typically not quantified for wildlife because of the lack of acceptable methodology to quantify exposure.

The source area (historical releases to soil in the former Launch Area) forms the basis for the ecological CSM, and soil is the primary exposure medium for ecological receptors. Sampling activities described previously in this RI Report include the investigation of surface and subsurface soil and groundwater. Surface water and sediment samples were not collected because there are no permanent on-site surface water bodies. The sampling included a broad list of target analytes including VOCs, SVOCs (including PAHs), metals, PCBs, and pesticides/herbicides.

Much of the site is comprised primarily of landscaped and maintained grass areas. Such highly disturbed landscaped/maintained areas are not typically considered potential habitat; however, for this site the degree and timing of landscape maintenance activities are not well understood and these areas (which are typically excluded from the evaluation of ecological risks) were included in the SLERA as a conservative assumption. As such, surface soil was identified as a potential exposure medium for ecological receptors, but in a very limited capacity due to poor habitat and the small size of the total habitat (less than 1 acre). A similar rationale was considered applicable for excluding potential ecological exposure related to subsurface soil.

Surface water and sediment are not potential exposure media based on the lack of surface water habitat present at the former Launch Area. Groundwater is also not a potential exposure medium since the depth to groundwater (approximately 4 to 7 feet bgs) and lack of surface expressions (e.g., seeps) preclude exposure.

As mentioned previously, only small areas (approximately ½-acre) of successional old field at the site perimeter provide potential habitat (see **Figure 6-3**). The former Launch Area is actively used by the county and is largely covered with gravel, asphalt, or buildings and ecological exposure to soil in these areas is not possible. Similarly, other areas of the former Launch Area are maintained lawn. Lawn areas are not a natural cover type and provide limited wildlife habitat. On site habitat does not support abundant and diverse populations of wildlife. Regardless, as a conservative approach, the SLERA assumes some portions of the site may present potential for exposure to ecological receptors, primarily through exposure to COPECs in soil. Potential exposure routes associated with surface soil include direct contact, ingestion, and food-web transfer. Inhalation or dermal exposures are typically not evaluated for wildlife because of the lack of acceptable methodology to quantify exposure.

Soil COPECs exhibit varying degrees of potential for exposure depending on chemical-specific parameters; however, the following potentially complete receptors and exposure pathways were identified:

- Plants – Plants are an important part of the ecological community because they prevent soil erosion and provide cover and food for invertebrate and vertebrate species. Direct contact with COPECs in soil is a potentially complete exposure pathway for plants.
- Soil Invertebrates – Soil invertebrates play an important role for soil aeration and provide food for wildlife. Direct contact and ingestion of COPECs in soil is a potentially complete exposure pathway for soil invertebrates.
- Birds and Mammals – Birds and mammals of several species from various feeding guilds are an important part of a healthy ecosystem. Incidental ingestion of COPECs in soil during foraging or grooming and food-web transfer (for bioaccumulative COPECs) are potentially complete exposure pathways for birds and mammals. The specific species identified to represent various types of feeding guilds for birds and mammals are as follows:
  - Herbivorous birds and mammals – mourning dove and meadow vole.
  - Invertivorous birds and mammals – American robin and short-tailed shrew.
  - Omnivorous birds and mammals – common crow and raccoon.
  - Carnivorous birds and mammals – red-tailed hawk and red fox.

Although most of the former Launch Area contains no habitat for ecological receptors, surface soil data for the limited areas of the site that contain potential habitat were evaluated for potential risks to plants, soil invertebrates, and birds and mammals. Although threatened and endangered species were not identified as potential ecological receptors (see **Section 6.2.2.3**), either on the former Launch Area or its immediate vicinity, the potential for ecological risk to protected species is at a minimum conducted at the community or population level.

6.2.2.5 Identification of Assessment and Measurement Endpoints

Ecological risk assessment typically relies on the identification of assessment and measurement endpoints to establish the framework for evaluating potential risk. Assessment endpoints are statements of characteristics or attributes of the environment that are to be protected (USEPA 1997b). Assessment endpoints generally cannot be measured directly; therefore, measurement endpoints are identified to provide measures of potential adverse effects. **Exhibit 6-1** below summarizes assessment and measurement endpoints.

Exhibit 6-2: Assessment Endpoints and Measurement Endpoints

Assessment Endpoints	Measurement Endpoints[1]
Abundance and diversity of plant community	Compare soil data to conservative benchmarks for plants
	Observations of stressed vegetation
Abundance and diversity of soil invertebrate community	Compare soil data to conservative benchmarks for soil invertebrates
Sustainability (defined by survival, growth, and reproduction) of bird and mammal populations[2]	Compare soil data to conservative benchmarks for birds/mammals

Note:
1. The measurement endpoints evaluate soil data (0 to 1 ft) from areas of the former Launch Area that represent potential habitat for ecological receptors. Soil data representative of manmade features of the site (e.g., areas of asphalt and gravel) are excluded in the assessment.
2. Inclusive of herbivorous, invertivorous, omnivorous, and carnivorous bird and mammal receptors.

The measurement endpoints described above were largely based on comparison of soil COPEC concentrations to medium-specific ecotoxicological benchmarks derived from the literature. These benchmarks are not site-specific and typically incorporate uncertainty in a precautionary manner, making their use in the SLERA relatively conservative. Based on the results of the SLERA (and subsequent steps of the SLERA refinement), if supplemental measurement endpoints and more site-specific studies are required (e.g., toxicity testing, tissue sampling and analysis), these types of studies would be proposed in a BERA (if necessary).

6.2.3 Screening-Level Effects Evaluation

The screening-level effects evaluation included the following three components: 1) identification of COPECs in environmental media (limited to surface soil for the former Launch Area); 2) exposure assessment to identify potential levels of ecological exposure to COPECs in relevant media; and 3) effects assessment that identified relevant ecotoxicological screening benchmarks. These components are conducted in a sequential manner that first identifies which analytes can be eliminated from further ecological evaluation, and then proceeds with identifying the potential ecological exposure and possible adverse effects that may be related to the remaining analytes (i.e., ecological COCs).

6.2.3.1 Identification of Potential Ecological Constituents of Concern

As described in **Section 4.3.1**, the RI soil data from the former Launch Area included analytical results for metals, VOCs, SVOCs (including PAHs), and PCBs. Sampling and analysis summaries for the current RI investigation are presented in **Section 4**. Analytical results are available in the FUDSChem database and data validation reports are included in **Appendix C**.

A subset of the available soil data was used to evaluate potential ecological risk. The RI soil samples were collected to characterize site conditions, and the sample locations reflect the predominant disturbance and commercial/industrial land usage (see **Section 6.2.2.2** for habitat description). Of the 24 soil samples collected on site, 19 were collected from maintained lawn and 3 were collected from gravel (areas that provide little to no habitat), since those are the most predominant cover types. Only two soil samples were collected from successional old field areas because the coverage of these areas on site is very small. As previously described, for this site the degree and timing of landscape maintenance activities are not well understood. Therefore, data from the landscaped/maintained areas (which are typically excluded from the evaluation of ecological risks) were included in the SLERA as a conservative assumption. Data from gravel area samples were excluded.

The soil sample locations used in the SLERA are presented in **Table 6-3** and on **Figure 6-4**. The soil data from 0 to 1 foot from these locations were used to characterize potential exposure and identify ecological COCs. The soil data considered in the SLERA are presented in **Table 6-4**. COCs were selected based on the process identified in the SLERA flow chart (**Figures 6-2a**) and incorporated several decision points on **Figure 6-2a**.

Specifically, a constituent is identified as an ecological COC if the following applies (along with the decision point):

- Constituent is potentially related to former DoD activity (D8).
- Sufficient quality and quantity of data exist (D9).
- Concentrations exceed background (D12).
- Constituent was detected at a frequency >10 percent (D14).
- Maximum detected concentration exceeded conservative benchmarks (D20, D21, D22).

For purposes of this SLERA, it was assumed that each of the target analytes (metals, VOCs, SVOCs, PCBs) are potentially related to former DoD activities (see D8 on **Figure 6-2a**). This is a conservative assumption, given that

sources of contaminants from DoD activities (e.g., solvents, corrosion preventives, and petroleum, oil, and lubricants) are currently used at the site by the Town of Hamburg Highway Department. Also, these constituents have many anthropogenic origins. Finally, the occurrence of metals and PAHs is often widespread and naturally occurring.

In terms of whether a sufficient quality and quantity of data exist (see D9 on **Figure 6-2a**), the DQOs established as part of the Final RI QAPP (JV 2020) include the collection of sufficient data to characterize ecological risks and support remedial decision-making purposes. Surface water and sediment data were not collected since there are no permanent surface waters on site. Potential exposure to surface soil is the most relevant pathway for ecological receptors. A total of 20 soil sample locations were used to characterize potential ecological risk. Therefore, this DQO has been achieved. Also, the soil data were validated to assure the quality of the data. As described in **Section 6.1.1**, results qualified "X" were reviewed by project chemists and subsequently rejected; therefore, "X" qualified results were not used in this SLERA. Data qualified as estimated were used as detected values, the same as unqualified data. Also, for duplicates, if both the parent and duplicate were detected or if both were not detected then the results were averaged; if either the parent or duplicate was detected and the other was not detected, the detected result was selected. Non-detects were evaluated at one-half of the detection limit for any evaluation of central tendency in the risk evaluation.

To determine whether the concentrations exceed background (see D12 on **Figure 6-2a**), the maximum detected concentrations were compared to the BTVs calculated in **Appendix J**. Maximum detected concentrations rather than a measure of central tendency (e.g., arithmetic mean) were compared to BTVs as a conservative approach since the maximums are the single highest detected concentrations in the site data set. The comparison of surface soil data to background is included as part of the ecological COC identification in **Table 6-5**.

The evaluation of FOD (see D14 on **Figure 6-2a**) is also included in **Table 6-5** and shows that most of the VOCs and SVOCs and all PCB Aroclors were not detected in any of the surface soil samples included in the SLERA. Therefore, these constituents were not identified as ecological COCs.

The final step in identifying COCs is the comparison of site data to conservative ecological benchmarks for soil (see D20, D21, and D22 on **Figure 6-2a**). The plant, soil invertebrate, bird, and mammal benchmarks were selected based on the following hierarchy:

- USEPA (2007a) EcoSSLs
- USEPA (2018) Region 4 Ecological Soil Screening Values
- LANL (2017) screening benchmarks.

USEPA EcoSSLs for PAHs are available for soil invertebrates and mammals, and were developed for total LMW PAHs and total HMW PAHs. LMW PAHs have fewer than four benzene rings, and HMW PAHs have four or more benzene rings (USEPA 2007a). The soil data for individual PAHs were therefore summed to calculate total LMW PAH concentrations and total HMW PAH concentrations. The total LMW PAH concentrations and total HMW PAH concentrations are presented in **Table 6-4** and **Table 6-5**.

Constituents were identified as an ecological COC if their maximum detection concentration exceeded the BTV (if available) and at least one benchmark (plant, soil invertebrate, bird, or mammal) and had a FOD of at least 10%. If a constituent did not have an available benchmark and had a FOD of at least 10%, it was identified as an ecological COC. Constituents where the maximum detected concentration exceeded the BTV and/or benchmark with a FOD less than 10% and no apparent clustering of detected concentrations were not identified as COCs. Calcium, magnesium, potassium, and sodium are essential nutrients and were not identified as COCs.

The soil data evaluation (**Table 6-5**) identified the following 10 metals, total HMW PAHs, and 13 individual SVOCs as ecological COCs:

- Metals: barium, chromium (including hexavalent chromium), cobalt, copper, lead, manganese, mercury, selenium, thallium, and zinc.
- SVOCs: total HMW PAHs, atrazine, bis(2-ethylhexyl)phthalate, acenaphthene, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, fluoranthene, indeno(1,2,3-cd)pyrene, and pyrene.

VOCs and PCBs were not identified as ecological COCs.

Each of the identified COCs was carried forward in the ecological risk screening process for further evaluation.

6.2.3.2 Exposure Assessment

Exposure for ecological receptors at the former Launch Area is limited to soil. For bioaccumulative COCs (e.g., lead, mercury, select PAHs) potential exposure for upper trophic level receptors may also occur via uptake in the food chain. As a conservative assumption, the initial evaluation of ecological risk was based on maximum detected concentrations in soil. Subsequent evaluations (in the SLERA refinement) evaluated the data based on arithmetic mean concentrations and considered background exceedance of the screening benchmarks.

6.2.3.3 Effects Assessment

The ecological effects assessment describes the potential adverse effects to ecological receptors associated with the ecological COCs. The effects assessment identifies ecological benchmarks for evaluation of direct contact for lower trophic level organisms (plants and soil invertebrates) and for direct ingestion and dietary intake for upper trophic level organisms (birds and mammals). The soil benchmarks included plant benchmarks (**Table 6-6**), soil invertebrate benchmarks (**Table 6-7**), bird benchmarks (**Table 6-8**) and mammal benchmarks (**Table 6-9**). As described in **Section 6.2.3.1** for ecological COC selection, sources in the preferred order were USEPA (2007a) EcoSSLs, then USEPA Region 4 Ecological Soil Screening Values (USEPA 2018), then screening benchmarks from LANL (2017).

These conservative benchmarks are risk-based screening concentrations that represent concentrations below which adverse effects will not likely occur. The soil benchmarks were from sources that incorporate specific approaches in the methods to derive a concentration that is protective of ecological receptors. In accordance with the conservative nature of the SLERA process, the soil benchmarks selected are sufficiently conservative to protect organisms at the community level. These conservative benchmarks were not intended to serve as levels that will trigger specific actions if exceeded. The exceedance of a conservative benchmark is not confirmation that an adverse ecological effect has occurred. The potential for an adverse ecological effect (and need for additional evaluation) would depend on the relevancy of the benchmark and the magnitude and frequency of exceedance.

6.2.4 Risk Characterization

Risk characterization combines site-related exposure estimates (described in the exposure assessment) and ecotoxicological effects data (described in the effects assessment) to estimate the likelihood of adverse effects. The risk characterization was conducted by comparing exposure concentrations to conservative ecotoxicological benchmarks, and the resulting value was identified as an HQ. HQs were calculated using the following equation:

$$HQ = \frac{Soil\ Concentration}{Ecotoxicological\ Benchmark}$$

An HQ less than or equal to 1.0 indicates that the potential for adverse effects to ecological receptors is absent or minimal, and additional evaluation is not necessary. An HQ greater than 1.0 indicates that a potential for adverse effects to ecological receptors may exist, and that additional evaluation of potential risks is necessary. The HQ value also indicates the magnitude of the exceedance. For example, if the HQ is less than 10, then the detected concentration is less than 10 times the benchmark, and if the HQ is greater than 10, then the value is greater than 10 times the benchmark. It is important to note that HQs greater than 1.0 developed as part of this SLERA should not be used as a definitive indication of the presence of ecological risk. Instead, HQs are meant to serve as an order-of-magnitude indicator for potential risk.

The risk characterization for each receptor group also includes a SLERA refinement step (Step 3a). While the SLERA evaluated the data based on a point-by-point comparison and relied on the maximum detected concentration to assess exceedances, the SLERA refinement step calculated HQs based on arithmetic mean concentrations. Arithmetic mean HQs were calculated to evaluate average level of exceedances for habitat across the site, recognizing that many ecological receptors are mobile and would not be exposed to site conditions in only the area of the maximum detected concentration. Mean HQs greater than 1.0 for birds and mammals were further refined by incorporating adjustment factors that considered the range in potential values for parameters used to quantify risk. The specific details of the HQ adjustment factors are presented in Sections 6.2.4.3 and 6.2.4.4 and the footnotes to **Table 6-8** and **Table 6-9**.

The SLERA refinement step also considered BTV exceedance of the screening benchmarks by calculating BTV HQs. The BTV HQs were used to identify whether general background conditions exceed the benchmark, further placing the site HQs into perspective. The site HQs are not directly compared with background HQs because they are based on different statistical estimates of soil COC concentrations. Specifically, the SLERA refinement site HQs were calculated using arithmetic mean concentrations while the BTV HQs were based on upper end estimates of reference soil concentrations (e.g., UTLs). However, these refinement steps serve to place the exceedance of conservative screening benchmarks into perspective. The SLERA refinement step also considers the fact that most of the former Launch Area does not provide habitat for ecological receptors, and potential for ecological exposure is expected to be minimal.

6.2.4.1 Risks to Plants

Potential risks to the terrestrial plant community were evaluated by comparing surface soil data to plant ecotoxicological benchmarks (**Table 6-6**). The HQs >1.0 based on maximum detected concentrations included eight metals (barium = 1.2, hexavalent chromium = 5.7, cobalt = 1.9, manganese = 7.9, mercury = 1.3, selenium = 123, thallium = 38, zinc = 3.9) and one SVOC (acenaphthene = 1.8). The highest maximum HQ (123) occurred for selenium. All other ecological COCs had maximum concentrations below their applicable plant benchmark, or a plant benchmark was not available (**Table 6-6**).

Given the conservatism of the generic plant benchmarks used in the risk characterization, a SLERA refinement step was used to place these HQs >1.0 into perspective in terms of actual ecological risk to the abundance and diversity of plant populations. The SLERA refinement step included the evaluation of HQs based on arithmetic mean COC concentrations for site samples (**Table 6-6**). The only mean HQs >1.0 were for hexavalent chromium (HQ=1.1), manganese (HQ=3.5), selenium (HQ=8.6), and thallium (HQ=10).

An additional refinement was to evaluate background conditions by comparing BTVs to the conservative benchmarks (**Table 6-6**). BTV HQs are not directly comparable to site HQs because the site HQs were based on arithmetic mean concentrations while BTV HQs were based on UTLs. Regardless, the BTV HQs (calculated from reference locations) were > 1.0 for hexavalent chromium, manganese, selenium, and thallium (in addition to barium, cobalt, and zinc), indicating benchmark exceedances for reference locations. Therefore, it is concluded

from this line of evidence that site concentrations of select metals (and SVOCs) do not present an unacceptable risk for population-level effects for plants.

A secondary line of evidence for evaluating risks to plants was observations of the plant community during the habitat assessment. Although quantitative studies of plant abundance and diversity of site cover types were not conducted, signs of stressed vegetation (e.g., yellow or wilted leaves, stunted growth) or areas devoid of vegetation that may be related to COCs in soil were documented, if present. As expected, human usage of the site has impacted the vegetation in most of the site proper through placement of gravel/asphalt, mowing, and other intrusive activities. More remote and natural areas (e.g., around the perimeter of the site) did not exhibit signs of phytotoxicity that may be related to soil COCs.

Collectively, site conditions do not indicate an unacceptable level of risk to plants.

6.2.4.2 Risks to Soil Invertebrates

Potential risks to the soil invertebrate community were evaluated by a direct comparison of surface soil data to the invertebrate ecotoxicological benchmarks (**Table 6-7**). The HQs >1.0 based on maximum detected concentrations included five metals (hexavalent chromium = 5.9, manganese = 3.8, mercury = 7.5, selenium = 16, zinc = 5.3) and total HMW PAHs (HQ=5.6). All other metal and SVOC HQs were <1.0. The highest maximum HQ (16) occurred for selenium. All other ecological COCs had maximum concentrations below their applicable soil invertebrate benchmark, or a soil invertebrate benchmark was not available (**Table 6-7**).

Again, a SLERA refinement step was used to place these HQs >1.0 into perspective in terms of actual ecological risk to the abundance and diversity of soil invertebrate populations. The SLERA refinement step included the evaluation of HQs based on arithmetic mean COC concentrations for site samples (**Table 6-7**). The mean HQs >1.0 were for hexavalent chromium (HQ=1.2), manganese (HQ=1.7), mercury (HQ=1.3), selenium (HQ=1.1) and zinc (HQ=1.4).

An additional refinement was to evaluate background conditions by comparing BTVs to the conservative benchmarks (**Table 6-7**). BTV HQs are not directly comparable to site HQs because the site HQs were based on arithmetic mean concentrations while BTV HQs were based on UTLs. Regardless, the BTV HQs (calculated from reference locations) were > 1.0 for hexavalent chromium, manganese, mercury, and zinc, indicating benchmark exceedances for reference locations. Therefore, it is concluded from this line of evidence that site concentrations of select metals (and SVOCs) do not present an unacceptable risk for population-level effects to soil invertebrates.

6.2.4.3 Risks to Birds

Birds may utilize the portions of the site that provide habitat. The specific avian species identified to represent various types of feeding guilds include herbivores (e.g., mourning dove), invertivores (e.g., American robin), omnivores (e.g., common crow) and carnivores (e.g., red-tailed hawk).

Potential risks to birds were evaluated by a direct comparison of surface soil data to the avian ecotoxicological benchmarks (**Table 6-8**). The HQs >1.0 based on maximum detected concentrations included six metals (chromium = 2.1, copper = 2.5, lead = 6.7, mercury = 29, selenium = 53, zinc = 14) and two SVOCs (bis[2-ethylhexyl]phthalate = 290, benzo(a)anthracene = 12). The highest maximum HQ for birds (290) occurred for bis(2-ethylhexyl)phthalate. All other ecological COCs had maximum concentrations below their applicable avian benchmark, or an avian benchmark was not available (**Table 6-8**).

The SLERA refinement step was used to place these HQs >1.0 into perspective in terms of actual ecological risk to the sustainability of bird populations. The SLERA refinement step included the evaluation of HQs based on arithmetic mean COC concentrations for site samples (**Table 6-8**). The mean HQs >1.0 were for lead (HQ=2.7), mercury (HQ=5.0), selenium (HQ=3.7), zinc (HQ=3.5), bis(2-ethylhexyl)phthalate (HQ=74), and benzo(a)anthracene (HQ=1.1). Mean HQs were further refined by incorporating adjustment factors that considered the range in potential values for parameters used to quantify risk. The screening benchmarks are based on conservative assumptions regarding food ingestion rate and area use factor. For example, the avian EcoSSLs were calculated assuming an upper end estimate of food ingestion rate for the American woodcock (USEPA 2007b). Use of a species-specific mean food ingestion rate from the EcoSSL supporting documentation (USEPA 2007b) would reduce the HQ values by a factor of 0.7 (see adjustment factor calculation details in the footnotes to **Table 6-8**). Additionally, an estimate of the median home range for an American woodcock is 72 acres (USEPA 1993), while the potential habitat at the former Launch Area is limited to less than a couple non-contiguous acres of vegetation along portions of the site perimeter. Rather than reducing mean HQs by a factor of 0.03 (equivalent to 2 acres divided by 72 acres), a more conservative area use factor of less than 1 (i.e.,, 0.5) was used to represent potential exposure for avian receptors. Finally, an adjustment factor of 0.1 is used to reflect an assumed approximate order of magnitude difference between a no observed adverse effect level (NOAEL) and an actual effect level (e.g., a lowest observed adverse effect level [LOAEL]) (USEPA 1997b). Use of these adjustment factors of 0.7 for food ingestion rate, 0.5 area use factor, and 0.1 to reflect actual effect levels results in refined HQs <1.0 for all ecological COCs except bis(2-ethylhexyl)phthalate (HQ=2.6) (**Table 6-8**). However, a review of data validation reports for the J qualified bis(2-ethylhexyl)phthalate results in the SLERA soil data set indicated results were biased high with potential for lab contamination. This is indicated by LCS recoveries above the acceptance limits and method blank contamination (e.g., method blank results for bis(2-ethylhexyl)phthalate ranged from 100 to 4,600 mg/kg compared to the qualified sample results ranging from 370 to 5,600 mg/kg). Also, bis(2-ethylhexyl)phthalate is found in many consumer products, including tablecloths, shower curtains, furniture and automobile upholstery, garden hoses, floor tiles, sheathing for wire and cable, and food packaging materials (National Center for Biotechnology Information 2021). ATSDR (2007) reported an estimate that 92% of U.S. domestic supplies of bis(2-ethylhexyl)phthalate are released to landfills (USEPA 1981 as cited in ATSDR 2007). Given the use of the former Launch Area as a town maintenance facility for more than 50 years, bis(2-ethylhexyl)phthalate is not likely attributable to historical DoD activities.

An additional refinement was to evaluate background conditions by comparing BTVs to the conservative benchmarks (**Table 6-8**). The bird HQs based on BTVs for copper (HQ=1.3), lead (HQ=3.5), mercury (HQ=12), selenium (2.0), and zinc (HQ=5.5) were also >1.0. Reference soil data were only analyzed for metals and PAHs, and therefore a BTV was not calculated for bis(2-ethylhexyl)phthalate. The fact that some of the BTV HQs were greater than the mean HQs is a function of the different statistical estimates of soil COC concentrations (i.e., BTVs were based on upper end estimates of reference soil concentrations). The conclusion from this line of evidence is that site concentrations of select metals (and SVOCs) do not present an unacceptable risk for population-level effects to birds.

6.2.4.4 Risks to Mammals

Mammals may utilize the portions of the site that provide habitat. The specific mammalian species identified to represent various types of feeding guilds include herbivores (e.g., meadow vole), invertivores (e.g., short-tailed shrew), omnivores (e.g., raccoon) and carnivores (e.g., red fox).

Potential risks to mammals were evaluated by a direct comparison of surface soil data to the mammalian ecotoxicological benchmarks (**Table 6-9**). The HQs >1.0 based on maximum detected concentrations included six metals (chromium = 1.6, copper = 1.4, lead = 1.3, selenium = 101, thallium = 4.5, zinc = 8.0), total HMW PAHs

(HQ=92), and one additional SVOC (bis(2-ethylhexyl)phthalate = 10). The highest maximum HQ for mammals (101) occurred for selenium. All other ecological COCs had maximum concentrations below their applicable mammalian benchmark, or a mammalian benchmark was not available (**Table 6-9**).

The SLERA refinement step was used to place these HQs >1.0 into perspective in terms of actual ecological risk to the sustainability of mammal populations. The SLERA refinement step included the evaluation of HQs based on arithmetic mean COC concentrations for site samples (**Table 6-9**). The mean HQs >1.0 were for selenium (HQ=7.1), thallium (HQ=1.2), zinc (HQ=2.1), bis(2-ethylhexyl)phthalate (HQ=2.5), and total HMW PAHs (HQ=8.4). Mean HQs were further refined by incorporating adjustment factors that considered the range in potential values for parameters used to quantify risk. The screening benchmarks are based on conservative assumptions regarding food ingestion rate and area use factor. For example, the mammalian EcoSSLs were calculated assuming an upper end estimate of food ingestion rate for the short-tailed shrew (USEPA 2007b). Use of a species-specific mean food ingestion rate from the EcoSSL supporting documentation (USEPA 2007b) reduces the HQ values by a factor of 0.8 (see adjustment factor calculation details in the footnotes to **Table 6-9**). Additionally, an adjustment factor of 0.1 reflects an assumed approximate order of magnitude difference between a NOAEL and LOAEL (USEPA 1997b). Use of these adjustment factors of 0.8 for food ingestion rate and 0.1 results in refined HQs <1.0 for all ecological COCs (**Table 6-9**).

An additional refinement was to evaluate background conditions by comparing BTVs to the conservative benchmarks (**Table 6-9**). The mammal HQs based on BTVs for selenium (HQ=3.7), thallium (HQ=2.7), and zinc (HQ=3.2) were also >1.0. The fact that some of the BTV HQs were greater than the mean HQs is a function of the different statistical estimates of soil COC concentrations (i.e., BTVs were based on upper end estimates of reference soil concentrations). The conclusion from this line of evidence is that site concentrations of select metals (and SVOCs) do not present an unacceptable risk for population-level effects to mammals.

6.2.5 SLERA Summary and Conclusions

This SLERA evaluated potential risks to environmental receptors associated with the former Launch Area and was developed as part of an RI site characterization conducted in 2020. Information collected during the RI indicates that the site contains minimal habitat. The former Launch Area is actively used by the county and is largely covered with gravel, asphalt, or buildings and ecological exposure to soil in these areas is not possible. Similarly, other areas of the former Launch Area are maintained lawn, which is not a natural cover type and provides limited wildlife habitat. The RI soil samples were collected to characterize site conditions, and the sample locations reflect the predominant disturbance and commercial/industrial land usage. Only two soil samples were collected from habitat areas (i.e., successional old field areas) since the coverage of these areas on site is very small. The highly disturbed landscaped/maintained areas would typically be excluded from the SLERA because they are not considered potential habitat. However, since the degree and timing of landscape maintenance activities are not well understood, data from maintained lawn areas were conservatively included in the SLERA.

During the habitat assessment, the field team recorded observed plant species for each cover type. The observed and typical plants include various species of herbaceous plants, shrubs, and trees. The habitat assessment also included recording the presence and/or evidence of ecological receptors. Very few wildlife species were observed within the boundary of the former Launch Area due to the lack of habitat in most areas and high level of human disturbance (**Section 2.5**). In adjacent areas with potential habitat (e.g., forested areas north of the site boundaries), a variety of species, or evidence (e.g., scat and/or tracks) thereof, were observed including birds and/or mammals that may occasionally traverse or forage onsite. Given the overall lack of habitat across most of the former Launch Area, the presence of threatened and endangered species or critical habitat is not expected.

This SLERA evaluated risks for several receptor groups including plants, soil invertebrates, and wildlife (i.e., birds and mammals). Conclusions from the risk evaluation for each environmental receptor group are presented below.

- Plants - Risk to terrestrial plants is low based on the limited frequency and magnitude of benchmark exceedances and the lack of observed stress or phytotoxicity to plant communities at the site. The plant HQs >1.0 based on mean site concentrations were for hexavalent chromium (HQ=1.1), manganese (HQ=3.5), selenium (HQ=8.6), and thallium (HQ=10). The HQs based on BTVs for each of these metals were also >1.0 indicating background concentrations also exceed the benchmarks.
- Soil Invertebrates - Risk to soil invertebrates is low based on the limited frequency and magnitude of benchmark exceedances. The soil invertebrate HQs >1.0 based on mean site concentrations were for hexavalent chromium (HQ=1.2), manganese (HQ=1.7), mercury (HQ=1.3), selenium (HQ=1.1) and zinc (HQ=1.4). The HQs based on BTVs for hexavalent chromium, manganese, mercury and zinc were also >1.0, indicating background concentrations also exceed the benchmarks.
- Birds - Risk to birds is low based on the limited frequency and magnitude of benchmark exceedances. The bird HQs >1.0 based on mean site concentrations were for lead (HQ=2.7), mercury (HQ=5.0), selenium (HQ=3.7), zinc (HQ=3.5), bis(2-ethylhexyl)phthalate (HQ=74), and benzo(a)anthracene (HQ=1.1). Refined bird HQs were <1.0 for all ecological COCs except bis(2-ethylhexyl)phthalate (HQ=2.6). However, a review of data validation reports for the J qualified bis(2-ethylhexyl)phthalate results in the SLERA soil data set indicated results were biased high with potential for lab contamination. This is indicated by LCS recoveries above the acceptance limits and method blank contamination. Also, bis(2-ethylhexyl)phthalate is found in many consumer products (National Center for Biotechnology Information 2021), and an estimated 92% of U.S. domestic supplies of bis(2-ethylhexyl)phthalate are released to landfills (USEPA 1981 as cited in ATSDR 2007). Given the use of the former Launch Area as a town maintenance facility for more than 50 years, bis(2-ethylhexyl)phthalate is not likely attributable to historical DoD activities.
- Mammals - Risk to mammals is low based on the limited frequency and magnitude of benchmark exceedances. The mammal HQs >1 based on mean site concentrations were for selenium (HQ=7.1), thallium (HQ=1.2), zinc (HQ=2.1), bis(2-ethylhexyl)phthalate (HQ=2.5), and total HMW PAHs (HQ=8.4). Refined mammal HQs were <1.0 for all ecological COCs.

The SLERA results indicate only small areas (approximately ½-acre) of successional old field at the site perimeter provide potential habitat. The former Launch Area is actively used by the county and is largely covered with gravel, asphalt, or buildings and ecological exposure to soil in these areas is not possible. Similarly, other areas of the former Launch Area are maintained lawn, which is not a natural cover type and provides limited wildlife habitat. On site habitat does not support abundant and diverse populations of wildlife, and there is no unacceptable risk for ecological receptors (plants, soil invertebrates, birds, and mammals).

6.3 Discussion of Uncertainty

Risk assessment involves the integration of complex analyses of constituent concentrations in the environment, the fate and transport of constituents in the environment, the potential for human and ecological exposure, and constituent-specific potency and/or toxicity. Some uncertainties are associated with each component in this process. Uncertainty in a risk assessment is typically accounted for by identifying the sources of uncertainty and characterizing whether the risk estimates may be over-predicted or under-predicted.

6.3.1 Environmental Sampling and Analysis

This risk assessment was based on the soil and groundwater data collected during the recent RI conducted in 2020 and 2021. Fieldwork, sample analysis, and data evaluation were performed in such a way as to minimize the potential for uncertainty in data quality and usability. Fieldwork and laboratory analysis of samples were performed in accordance with procedures outlined in the Final RI QAPP (JV 2020).

6.3.1.1 Field Sampling and Risk Assessment Data Sets

As discussed in the Final RI QAPP (JV 2020), the sampling approach and rationale were developed mainly based on historical site usage and the identified need for vertical and horizontal delineation of environmental impacts from potential source areas. A combination of judgmental (e.g., biased to the former transformer pad or drainage swales) and random (e.g., evenly spaced over the area covering the former missile silos or grass-covered areas where human or ecological exposure could occur) sampling approaches were used to characterize the site. Overall, the field investigation methods increased the likelihood of revealing potential impacts due to historical DoD use of the former Launch Area and thereby minimized the potential for under-estimating human health and ecological risks.

In terms of ecological risk, the former Launch Area is highly disturbed and covered with asphalt, gravel, and buildings. Other areas of the former Launch Area are maintained lawn, which is not a natural cover type and provides limited wildlife habitat. On site habitat is limited to small areas (less than a couple acres in total) of vegetation along portions of the site perimeter. The RI soil samples reflect the predominant disturbance and commercial/industrial land usage. Although soil data from highly disturbed landscaped/maintained areas would typically be excluded from the SLERA, for the former Launch Area these data were conservatively included since the degree and timing of landscape maintenance activities are not well understood. Given the number of samples and the limited habitat present at the site, the soil data set included in the SLERA provided adequate spatial coverage for evaluating potential ecological risks.

For the HHRA, metals concentrations in groundwater were compared to maximum concentrations in two samples from the upgradient monitoring well, MW-16. Metals detected at concentrations greater than the Tapwater RSLs but less than concentrations in MW-16 were eliminated from further quantitative evaluation (USACE 2011). Following this approach, arsenic, cobalt, iron, manganese, and vanadium were eliminated as COPCs. However, two samples from a single upgradient well were used to approximate background conditions. This contributes uncertainty due to the limited number of upgradient samples (i.e., less than 8 samples which would be considered statistically defensible). Therefore, as an additional line of evidence to support that these metals are consistent with naturally occurring and/or anthropogenic background conditions, geochemical relationships between aluminum and iron and the select metals in groundwater (arsenic, cobalt, manganese, and vanadium) were explored. Due to high concentrations of salts (sodium and calcium) in groundwater samples from the site (including MW-16), geochemical relationships between sodium and calcium and the select metals in groundwater were also explored. High concentrations of salt cations can displace other naturally occurring metals sorbed to soil, thereby mobilizing the metals in groundwater and masking relationships with aluminum and iron. The prevalence of non-detect results for aluminum and arsenic precluded further evaluation of relationships with other metals. There appeared to be a strong correlation between calcium (from road salts) and manganese, and magnesium (from road salts) and manganese concentrations in groundwater. There was a slight correlation between iron and manganese, sodium and manganese, and magnesium and cobalt in groundwater. Overall, the geochemical evaluation does not offer a clear line of evidence supporting that the select metals in groundwater are naturally occurring. However, this is to be expected given the complex relationship between when and where different road salts (sodium, potassium, calcium, and magnesium chloride) were used or stored on the site over

the past 50-years, along with other factors including variation in soil types, stormwater runoff paths, and truck transport pathways. However, the principal reason there is not a strong correlation is the salt cations, such as sodium, will displace other metal ions in the soils up to a certain concentration, above which, additional ions are not displaced. Once a certain sodium concentration is reached, the metals ions that were displaced are capped/do not increase. Based on the distribution of metals throughout the site and given what is known about the current and historical site use, the metals detected in groundwater are likely related to use of the site as a town maintenance facility for the past 50 years and do not indicate a release to the environment associated with past DoD activities. Therefore, this site-specific geochemical data evaluation supports that the uncertainty introduced by placement of a single upgradient monitoring well is negligible and does not have a material effect on the HHRA conclusions.

6.3.1.2 Analytical Results Evaluation

The analytical data were validated in accordance with the DoD Quality Systems Manual for Environmental Laboratories, Version 5.3 (2019a) and the DoD General Data Validation Guidelines, Revision 1 (2019b). A total of 43 soil and 286 groundwater sample results in the HHRA data sets were qualified “X” by the data validator, indicating the sample results were affected by serious deficiencies and exclusion of the data was recommended. As discussed in **Section 4.3.4.3**, these data were reviewed by the project chemists, who recommended that “X” qualified data be changed to R qualified (rejected). As such, the R qualified data were not included in the HHRA or SLERA.

The analytical results for hydrazine, methylhydrazine, 3,3-dichlorobenzidine, 4-chloroaniline, 3-nitroaniline, atrazine, n-nitrosodiphenylmine, antimony, and hexavalent chromium in some soil samples were rejected. However, these rejected results are not likely to have a material impact on the overall conclusions of the HHRA or SLERA, for the following reasons:

- Hydrazine and methylhydrazine results were rejected in up to nine soil samples (inclusive of duplicates); however, these constituents were not detected in the remaining soil samples and were not detected in groundwater.
- 3,3-Dichlorobenzidine, 4-chloroaniline, 3-nitroaniline, atrazine, and n-nitrosodiphenylmine results were rejected in up to nine soil samples (inclusive of duplicates). Only atrazine was detected in three of 21 surface soil samples and one of 19 subsurface soil samples. The rejected atrazine result was within the range of concentrations detected in the remaining samples. The detected atrazine concentrations were above the ecological screening level but less than the residential RSL. None of these SVOCs were detected in groundwater.
- Antimony results were rejected in three site and two reference soil samples (inclusive of duplicates), and hexavalent chromium results were rejected in two reference soil samples; however, the rejected results were within the range of concentrations detected in the remaining soil samples. Therefore, these rejected results are not likely to have impacted the overall conclusions of the HHRA or SLERA.

The analytical results for dissolved hexavalent chromium, phenolic compounds, hexachlorocyclopentadiene, and caprolactam in some groundwater samples were rejected. However, these rejected results are not likely to have a material impact on the overall conclusions of the HHRA, for the following reasons:

- Dissolved hexavalent chromium was detected at estimated concentrations in seven of 46 samples (inclusive of duplicates) and was rejected in six of 46 samples. While it is possible that dissolved hexavalent chromium was present in one or more of the samples with rejected results at concentrations below the limit of detection (LOD), exposure to detected hexavalent chromium was evaluated in the HHRA.

- Of the phenolic compounds with rejected results, only phenol was detected in one of 23 groundwater samples; this detected concentration was less than the Tapwater RSL. Of the other phenolic compounds, several rejected results were greater than the Tapwater RSL (i.e., 2,4,6-trichlorophenol, 2,4-dichlorophenol, 2,4-dinitrophenol, 2-nitrophenol, 4,6-dinitro-2-methylphenol). However, these compounds were not detected in other groundwater samples, nor were they detected in soil, and they are not likely to be associated with historical DoD activities.
- Hexachlorocyclopentadiene was rejected in six groundwater samples and was not detected in any other groundwater samples or in any soil samples, albeit at detection limits greater than the human health screening values. However, hexachlorocyclopentadiene is not considered a site-related constituent.
- Caprolactam was rejected in two groundwater samples, and the rejected results were below the Tapwater RSL. Caprolactam was detected in one of 22 soil samples at a concentration several orders of magnitude less than the residential RSL. Caprolactam is an organic compound used in the manufacture of synthetic fibers and is not likely associated with historical DoD activities. Therefore, the rejected caprolactam results in groundwater do not impact the overall conclusions of the HHRA.

6.3.1.3 Evaluation of Detection Limits

The analytical detection limits for constituents in soil were compared to human health risk-based screening levels. The COPC selection tables in **Appendix I** showed the detection limits (i.e., LODs) were sufficiently low. The maximum LODs for all detected chemicals except hexavalent chromium and thallium were below the residential RSLs. Based on review of the sample-specific results and laboratory-supplied detection limits (i.e., [limit of quantitation [LOQ], LOD, and detection limit [DL]) presented in the Final RI QAPP (JV 2020), although the LOQ (0.4 mg/kg) for hexavalent chromium was greater than the residential RSL (0.3 mg/kg), the LOD (0.24 mg/kg) and DL (0.12 mg/kg) were below it. A few samples may have had non-detect results with elevated LODs (above the RSL) due to matrix interference; however, there is 99% confidence that hexavalent chromium was not present at a concentration above the DL, because if it had been present, it would have been reported as a detect and qualified as estimated (“J”). Hexavalent chromium was detected in six of 22 soil samples, therefore exposure to this constituent was evaluated in the HHRA. For thallium, the residential RSL (0.078 mg/kg) based on a non-cancer HQ of 0.1 was below the LOQ (1.5 mg/kg), LOD (0.5 mg/kg) and DL (0.087 mg/kg). However, the LOD and DL are below the residential RSL based on a non-cancer HQ of 1. Additionally, thallium was detected in 12 of 22 soil samples; therefore, exposure to thallium was evaluated in the HHRA. LODs for the non-detect analytes in soil were also below the residential RSLs except for a few SVOCs, and in these cases, the LODs were below the residential RSLs based on a non-cancer HQ of 1 or target cancer risk of 1E-05. Non-detect results that had LODs greater than human health screening levels in a select few samples do not have a material effect on the conclusions of the HHRA.

For groundwater, several non-detect VOCs and SVOCs had LODs greater than the Tapwater RSLs. However, groundwater is not currently used and is unlikely to be used in the future, as a source of potable water on the site or in the immediate vicinity. As discussed previously, detected concentrations of VOCs and SVOCs were not co-located with former DoD activity areas, and do not indicate a release to the environment associated with past DoD activities. Additionally, given the use of the former Launch Area as a town maintenance facility for more than 50 years, it is unlikely that these non-detected VOCs/SVOCs would be present at concentrations above the Tapwater RSLs (but below the detection limits) and would be attributable to historical DoD activities.

Soil LODs were below the ecological screening benchmarks presented in the SLERA, with the exception of select samples with LODs greater than one or more screening benchmark for metals (antimony, cadmium, hexavalent chromium, mercury, selenium, thallium) and SVOCs (bis(2-ethylhexyl)phthalate, carbazole, dibenzofuran). Based

on review of the sample-specific results and laboratory-supplied detection limits (i.e., LOQ, LOD, and DL) presented in the Final RI QAPP (JV 2020), although the LOQs for cadmium and hexavalent chromium were greater than the lowest available ecological benchmarks, the LODs and DLs were below them. Although LOQs and LODs for antimony, mercury, selenium, and dibenzofuran were above the ecological benchmarks, the DLs were below them. A few samples may have had non-detect results with elevated LODs (above the benchmarks) due to matrix interference; however, there is 99% confidence that these constituents were not present at concentrations above the DLs, because if they had been present, they would have been reported as detects and qualified as estimated ("J"). For thallium, bis(2-ethylhexyl)phthalate and carbazole, the lowest available ecological benchmarks were greater than the LOQs, LODs, and DLs. However, these constituents were detected in at least one soil sample and were therefore evaluated in the SLERA. The presence of these constituents in soil is not likely attributable to historical DoD activities. Therefore, the benchmark exceedance of select LODs does not indicate data quality issues and does not affect data usability for the SLERA.

6.3.1.4 Historical Sample Results

Historical soil and groundwater data collected during site investigations conducted more than 20 years ago were not used in this BRA. Based on a comparison of these older data to the human health screening levels used in this BRA, hydrazine, PAHs, and metals would be COPCs in soil. These same constituents were detected in the RI soil samples but were not selected as COPCs based on comparisons to the residential RSLs or reference sample data. The 2020 RI sample data were considered more representative of the site and supported the premise that current constituent concentrations in soil are below levels of concern. Based on review of the historical groundwater data, VOCs (primarily BTEX constituents), SVOCs (PAHs and bis[2-ethylhexylphthalate], and metals were the COPCs in groundwater. These chemicals were detected in the RI groundwater samples and generally within the same range of concentrations as the historical data. Therefore, exclusion of the historical groundwater data from the BRA would not likely affect the BRA conclusions and was preferred given the age of samples.

6.3.2 Exposure Assessment

An underlying assumption in the HHRA is that potential human receptors could be exposed to the maximum detected concentrations in soil and groundwater. Use of the maximum concentration to identify soil and groundwater COPCs and to calculate risks from exposure to groundwater is a health-protective approach that over-states the potential for exposure. The 95% UCL concentrations were used in the soil risk calculations because they are a more realistic estimate of exposure that considers the non-random patterns of human use of the former Launch Area.

Potential human exposure scenarios were developed based on site-specific information, USEPA guidance documents, and professional judgment. The use of residential soil RSLs to identify human health COPCs is conservative since future residential use of the former Launch Area is not a realistic or reasonable scenario based on the current land use and ownership, proximity to the Hamburg Landfill, and presence of historic underground silos. Residential soil RSLs were used to evaluate an unlimited use/unrestricted exposure scenario and to inform risk management decisions, if needed. Similarly, while groundwater is not currently used and is unlikely to be used in the future for drinking water, the potable use scenario was evaluated to inform risk management decisions, if needed. The exposure scenario with little likelihood of ever occurring is the vapor intrusion pathway for volatile constituents that could potentially migrate from shallow groundwater to indoor air through cracks in building foundations. Benzene was the only volatile chemical that was detected in shallow groundwater at a concentration above the USEPA VISLs for residential air, and it was detected in only three of the 30 total overburden groundwater samples collected during the RI. Due to this localized impact, it is unlikely that a receptor

would be exposed to indoor air concentrations at the maximum concentration from one sample, leading to an overestimation of vapor intrusion risks.

Maximum concentrations were used in the SLERA to identify ecological COCs and calculate screening-level HQs. This is a conservative approach that over-states the potential for ecological exposure. Use of the arithmetic mean concentrations in the SLERA refinement is a more realistic estimate of exposure that considers the spatial distribution of contaminant concentrations and the transient nature of most wildlife receptors. The ecological exposure assumptions are also conservative since the SLERA included surface soil data from disturbed areas such as maintained fields that are not naturally occurring habitat and provide limited cover and foraging potential for wildlife.

While aspects of the exposure assessment methodology can result in over-estimates or under-estimates of human and ecological exposure, exposure was probably overestimated, overall, for the potentially exposed populations evaluated.

6.3.3 Risk-Based Screening Levels and Toxicity Values

There is some uncertainty associated with the risk-based screening levels and toxicity values used in the HHRA. However, screening levels and toxicity values are designed to be health-protective. Human health risk-based screening levels are typically derived using parameters representative of reasonable maximum exposure and peer-reviewed toxicity values. In most cases, the toxicity values are derived by extrapolating from laboratory animal data to humans. Uncertainty factors are applied to avoid under-estimating the potential for adverse human health effects.

Selected soil ESVs are also intentionally conservative. The benchmarks considered in this SLERA were from sources that incorporate specific approaches in the methods used to derive a concentration that is protective of ecological receptors. For example, Oak Ridge National Laboratory (ORNL) documents (Efroymson et al. 1997a; 1997b; 1997c) were used to derive soil benchmarks presented in the USEPA (1997b) guidance. The ORNL authors readily acknowledge that there is uncertainty associated with their derivation methodology. This uncertainty is because most studies used to derive the benchmarks were laboratory-controlled dose studies that artificially increase the bioavailability so that a response can be detected. However, in accordance with the conservative nature of the SLERA process, the authors also acknowledge that the soil benchmarks selected are sufficiently conservative to protect organisms at the community level (Efroymson et al. 1997a).

Finally, several constituents do not have human health risk-based screening levels, or ecological benchmarks for any receptor categories (i.e., plants, soil invertebrates, birds or mammals). For human health, the only constituents with no screening levels available are calcium, magnesium, potassium, and sodium, which are essential nutrients that were categorically eliminated as COPCs (see **Appendix I**, RAGS Part D Table 2s). Besides these same four essential nutrients, the only additional constituents with no ecological benchmarks available are aluminum, iron, atrazine, and caprolactam. Aluminum and iron were not identified as ecological COCs because maximum detected concentrations were below the BTVs. Atrazine and caprolactam were both infrequently detected (3/20 and 1/20, respectively) in the soil samples included in the SLERA. Atrazine is an herbicide and caprolactam is an organic compound used in the manufacture of synthetic fibers. The presence of these organic compounds in soil is not likely associated with past DoD activities at the former Launch Area. Therefore, the lack of screening levels or ecological benchmarks is unlikely to have a material effect on the risk assessment conclusions.

Overall, the potential for human health and ecological risk was likely over-stated in the HHRA and SLERA.

7 Summary of Results

This section summarizes the significant results obtained and the conclusions reached as a result of the RI activities conducted at the Launch Area of the former Nike Battery. Only the most significant findings are presented in this section and are reproduced directly or abstracted from information contained in this report. The overall goal of the RI was to determine the nature and extent of contaminants in soil and groundwater at the former Launch Area and subsequently to determine the potential hazards and risks posed to human health and the environment. As a result of the characterization conducted at the former Launch Area, the objectives of the RI have been met.

7.1 RI Summary

Field activities for the RI at the Launch Area of the former Nike Battery were conducted between May 19, 2020 and March 5, 2021. Tasks performed included collection of soil and groundwater samples for site characterization and to support remedial decision making.

7.1.1 RI Fieldwork Summary

During the RI field activities, 43 soil samples (including field duplicate samples) were collected within the former Launch Area during installation of 16 overburden wells (sample ID MW designation) from the top of native material to the water table and analyzed for TAL metals, hexavalent chromium, TCL VOCs, TCL SVOCs, hydrazines, grain size, TOC, and moisture content.

A total of 10 surface soil samples (sample ID SL designation) were collected from eight additional locations within the former Launch Area and analyzed for TAL metals, TCL VOCs, TCL SVOCs, and hydrazines.

Three of the surface soil samples collected in the vicinity of the former transformer pad were analyzed for PCBs.

A total of 35 reference soil samples (including field duplicate samples) were collected from the surface (0 to 1 foot bgs) and subsurface (1 to 3 feet bgs) at 16 locations within the Nike Battery but outside the former Launch Area (sample ID BH designation) and analyzed for metals and PAHs.

Sixteen new overburden and five paired bedrock monitoring wells were installed to evaluate the nature and extent of any groundwater impacts and for delineation of groundwater flow. Two rounds of sampling were conducted: one in September 2020 and a second round in December 2020. During each event, water levels of monitoring wells were documented, and groundwater samples were analyzed for TAL metals, TCL VOCs, TCL SVOCs, and hardness.

Groundwater level measurements collected during the September 2020 and December 2020 sampling events were used to generate groundwater contour maps. The direction of groundwater flow in the overburden wells is to the south, and the direction of groundwater flow in the bedrock wells is to the south and east.

Slug tests in overburden wells were used to evaluate hydraulic conductivity. The locations of slug tests were distributed across the investigation area to be representative of the site as a whole. Except for well NHLA-MW16, the wells recovered quickly during testing, indicating relatively high hydraulic conductivity. Well NHLA-MW16 took an extended time to recover, indicating a lower relative hydraulic conductivity.

7.1.2 Nature and Extent of Contamination

The results of the RI investigations indicate that the primary contaminants found in the former Launch Area soil and groundwater are PAHs and metals, with other SVOCs and VOCs found to a lesser extent in groundwater.

The distribution of the SVOCs/PAHs spatially and temporally suggest no discernible trend in soil or groundwater, and any contamination is likely localized. The concentrations identified in shallow soils across the site indicate that PAHs are likely present due in part to multiple non-DoD-related sources, such as petroleum residuals related to UST or AST leaks, fueling spills, asphalt used in road construction, roofing tar, or from asphalt millings stored by the Town of Hamburg in the missile silo vaults. In groundwater, SVOC/PAH exceedances did not correlate with the SVOC/PAH soil results.

Generally, the metal levels in soils in the former Launch Area are similar to those in samples collected from reference locations, suggesting that their presence is at background levels. Soil data from the former Launch Area were compared to reference soil data. Constituents with maximum detected site concentrations less than BTVs calculated from the reference soil data were not included in the quantitative risk assessments (see **Sections 6.1.1** and **6.2.3**). Groundwater data from the former Launch Area were compared to upgradient monitoring well data. Constituents with maximum detected site concentrations less than the upgradient groundwater concentrations were not included in the quantitative HHRA (**Section 6.1.1**).

Based on these data, no DoD-related contaminant source areas, past or existing, were identified during the RI. In addition, although not the focus of this RI, there were also no non-DoD-related source areas identified during the RI.

7.1.3 Baseline Risk Assessment Conclusions

The BRA was completed based on the RI soil and groundwater data, and included both an HHRA and a SLERA (and SLERA refinement).

The HHRA results indicated that for all current/most likely future on-site exposure scenarios, non-cancer hazards are less than 1 and are therefore acceptable, and ELCRs are less than or within the acceptable risk range of 1×10^{-4} to 1×10^{-6} (i.e., 1E-04 to 1E-06) established by the NCP. For the hypothetical future potable use scenarios, non-cancer HIs exceed 1 and ELCRs are within (for the commercial/industrial worker) or exceed (for the resident) the risk range of 1×10^{-4} to 1×10^{-6}. The potential for cancer risk to an off-site resident from hypothetical future potable use of groundwater is from benzene and bis(2-ethylhexyl)phthalate. The potential for non-cancer hazard is predominantly due to benzene, bis(2-ethylhexyl)phthalate, and thallium in groundwater.

Benzene was detected in 8 of the 39 groundwater samples, at concentrations ranging from 0.33 to 210 µg/L, however the second highest concentration was 11 µg/L. Benzene concentrations exceeded the Tapwater RSL at three locations (MW-4, MW-5, and MW-9). Benzene was not detected (< 0.500 µg/L) in upgradient groundwater samples. The sporadic nature of the benzene detections in groundwater is not indicative of a widespread release. bis(2-Ethylhexyl)phthalate was infrequently detected (4 of 39 samples) in groundwater, and a single detected concentration exceeded the Tapwater RSL of 5.6 µg/L. bis(2-Ethylhexyl)phthalate was also detected in upgradient groundwater at an estimated concentration of 2.2 µg/L. Additionally, bis(2-ethylhexyl)phthalate is a common laboratory contaminant and is likely an artifact of sample analysis. Thallium was detected in half the overburden and bedrock groundwater samples, however concentrations in only two samples exceeded the background value of 0.82 µg/L. The HHRA likely overestimated the thallium exposure concentration because a maximum of 1.4 µg/L was used to evaluate the potable use scenario and the mean of detected thallium concentrations was 0.32 µg/L. Thallium in the environment may be a result of coal use and/or emissions, and its previous use at the site has not

been reported. Additionally, the groundwater metals data evaluation offers strong evidence to support that groundwater conditions reflect impacts of a more recent origin (e.g., from the storage/transport/use of road salt at the site). Given the use of the former Launch Area as a town maintenance facility for more than 50 years, the presence of these constituents in groundwater is not likely attributable to historical DoD activities.

The SLERA results indicate that only small areas (approximately ½-acre) of successional old field at the site perimeter provide potential habitat. The former Launch Area is actively used by the county and is largely covered with gravel, asphalt, or buildings and ecological exposure to soil in these areas is not possible. Similarly, other areas of the former Launch Area are maintained lawn. Lawn areas are not a natural cover type and provide limited wildlife habitat. On site habitat does not support abundant and diverse populations of wildlife. Additionally, based on the limited frequency and magnitude of benchmark exceedances, risk to terrestrial plants, soil invertebrates, birds, and mammals is low. Considered as a whole, limited quality habitat and the benchmark screening results indicate no unacceptable risk for ecological receptors (plants, soil invertebrates, birds, and mammals).

7.2 Recommendations

The purpose of the RI at the Launch Area of the former Nike Battery was to conduct an on-site investigation and gather sufficient data to characterize the nature and extent of DoD impacts (if present). The primary goal of the RI was to collect the appropriate amount of information to determine if there are site conditions that may pose unacceptable hazards or risks to human health and the environment arising from DoD-related contaminants. The data collection and risk assessments will be used to support remedial decisions, if needed, or to justify a determination of either No DoD Action Indicated or No Further Action.

In soil collected from the former Nike Battery Launch Area, metals and PAHs were detected at concentrations above the screening levels. In groundwater collected from the former Nike Battery Launch Area, metals, PAHs, and VOCs were detected at concentrations above the screening levels. Given the use of the former Launch Area as a town maintenance facility for more than 50 years, these contaminants cannot be linked conclusively to past DoD activities at the site and are not indicative of a DoD-related release to the environment.

The human health and SLERA evaluations concluded that there is no unacceptable DoD-related risk to human health under current and likely foreseeable future uses and to ecological receptors at the former Nike Battery Launch Area. Therefore, the findings of the RI support a No Further Action Proposed Plan.

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Tables

Table 3-1
Monitoring Well Construction Details and Water Levels
Former Nike BU 51/52 Launch Area Remedial Investigation
Hamburg, New York

							23 September 2020		15 December 2020	
Monitoring Well ID	Monitored Zone	Northing	Easting	Well Depth (ft bgs)	Screen Interval (ft bgs)	Measuring Point Elevation (ft AMSL)	Depth to Water (ft)	Groundwater Elevation (ft AMSL)	Depth to Water (ft)	Groundwater Elevation (ft AMSL)
NHLA-MW1BR	Bedrock	988219.14	1062916.56	22	14-22	762.12	7.03	755.09	5.53	756.59
NHLA-MW1OB	Overburden	988213.96	1062923.84	12.5	5.5-12.5	761.65	6.17	755.48	5.87	755.78
NHLA-MW2	Overburden	987625.64	1063269.75	12	4-12	759.21	6.23	752.98	4.4	754.81
NHLA-MW3	Overburden	987706.81	1063083.15	7	4-7	762.5	8.99	753.51	7.6	754.9
NHLA-MW4BR	Bedrock	987448.14	1062935.05	25	17-25	758.18	13.88	744.3	5.68	752.5
NHLA-MW4OB	Overburden	987448.55	1062929.65	12.5	4.5-12.5	757.99	6.33	751.66	3.57	754.42
NHLA-MW5BR	Bedrock	986934.33	1063244.09	39	29-39	753.57	38.38	715.19	40.72	712.85
NHLA-MW5OB	Overburden	986935.01	1063236.48	18.5	8.5-18.5	753.64	5.79	747.85	4.41	749.23
NHLA-MW6	Overburden	987615.69	1062886.42	11	4-11	759.97	6.87	753.1	5.49	754.48
NHLA-MW7BR	Bedrock	987385.67	1062573.4	24	16-24	758.84	7.05	751.79	5.61	753.23
NHLA-MW7OB	Overburden	987390.59	1062567.89	11	4-11	758.91	7.48	751.43	5.58	753.33
NHLA-MW8	Overburden	987647.18	1062387.17	11	4-11	758.42	6.3	752.12	4.92	753.5
NHLA-MW9BR	Bedrock	987854.67	1062566.95	24	16-24	760.6	7.28	753.32	5.87	754.73
NHLA-MW9OB	Overburden	987848.61	1062561.66	11	4-11	759.94	6.93	753.01	5.21	754.73
NHLA-MW10	Overburden	988010.03	1062716.97	14	4-14	762.21	8.1	754.11	6.58	755.63
NHLA-MW11	Overburden	987845.74	1063107.8	14	5-14	764.22	10.04	754.18	8.62	755.6
NHLA-MW12	Overburden	987937.69	1062868.49	11	4-11	763.87	9.84	754.03	8.07	755.8
NHLA-MW13	Overburden	987479.61	1062481.12	11	4-11	759.62	7.83	751.79	5.29	754.33
NHLA-MW14	Overburden	987250.39	1062924.04	11	4-11	757.26	6.13	751.13	5.11	752.15
NHLA-MW15	Overburden	987424.01	1062699.91	11	4-11	759.26	7.07	752.19	5.32	753.94
NHLA-MW16	Overburden	988594.22	1063190.69	21	11-21	775.67	17.84	757.83	16.52	759.15

Notes:
ft bgs - feet below ground surface
ft AMSL - feet above mean sea level

Table 3-2
Summary of Soil Samples Collected from Monitoring Well Soil Borings
Former Nike BU 51/52 Launch Area Remedial Investigation
Hamburg, New York

Well ID	Sample Name	Depth Interval (ft bgs)
NHFLA-MW1OB-	A	0 - 1
NHFLA-MW1OB-	B	1 - 3
NHFLA-MW1OB-	C	5 - 7
NHFLA-MW2-	A	0 - 1
NHFLA-MW2-	B	1 - 3
NHFLA-MW3-	A	0 - 1
NHFLA-MW3-	B	1 - 3
NHFLA-MW4OB-	A	0 - 1
NHFLA-MW4OB-	B	1 - 3
NHFLA-MW5OB-	A	0 - 1
NHFLA-MW5OB-	B	1 - 3
NHFLA-MW5OB-	C	15 - 17
NHFLA-MW6-	A	0 - 1
NHFLA-MW6-	B	1 - 3
NHFLA-MW7OB-	A	0 - 0.5
NHFLA-MW7OB-	B	1.2 - 3
NHFLA-MW7OB-	C	3 - 5
NHFLA-MW8-	A	0 - 1
NHFLA-MW8-	B	1 - 3
NHFLA-MW9OB-	A	0 - 0.4
NHFLA-MW9OB-	B	1.4 - 3
NHFLA-MW10-	A	0 - 1
NHFLA-MW10-	B	1 - 3
NHFLA-MW10-	C	3 - 4
NHFLA-MW11-	B	1 - 2.1
NHFLA-MW11-	C	5 - 6
NHFLA-MW12-	B	2 - 2.8
NHFLA-MW13-	A	0 - 1
NHFLA-MW13-	B	1 - 3
NHFLA-MW13-	C	3.5 - 5.5
NHFLA-MW14-	A	0 - 1
NHFLA-MW14-	B	1.3 - 2.8
NHFLA-MW15-	A	0 - 1
NHFLA-MW15-	B	1 - 3
NHFLA-MW15-	C	3 - 4.4
NHFLA-MW16-	A	0.5 - 1
NHFLA-MW16-	B	1 - 3
NHFLA-MW16-	C	15 - 17

Notes:

ft bgs - feet below ground surface

Table 3-3
Surface and Reference Soil Sample Collection Locations
Former Nike BU 51/52 Launch Area Remedial Investigation
Hamburg, New York

ARCADIS

Location ID	Northing	Easting	Ground Elevation (ft AMSL)
SL11A	987869.79	1063112.01	761.41
SL11B	987851.75	1063090.01	761.5
SL16	987817.32	1063280.4	759.07
SL18	987511.17	1062610.47	757.78
SL19	987618.44	1062616.71	758.74
SL20	987614.73	1062736.39	759.11
SL21	987719.65	1062619.23	758.64
SL22	987734.59	1062735.62	758.98
SL23	987845.44	1062733.71	759.8
SL24	987715.17	1062857.84	759.66
SL25	988012.56	1063043.68	761.39
SL26	988054.11	1063112.9	758.47
SL27	987929.98	1063162.98	759.73
SL28	987801.78	1063360.86	758.01
SL29	987796.15	1062327.09	753.71
SL30	987617.76	1062507.47	757.84
BH36	988915.76	1063349.3	760.69
BH37	989018.29	1063508.94	761.34
BH38	989155.2	1063716.3	764.63
BH39	989247.34	1063821.68	766
BH40	989071.79	1063832.24	763.36
BH41	988880.8	1063826.54	761.58
BH42	988689.43	1063808.15	761.06
BH43	988841.54	1063548.71	760.48
BH44	988351.6	1064214.13	761.81
BH45	987877.42	1064202.53	756.08
BH46	987511.33	1064191.09	752.75
BH47	987503	1063847.28	754.39
BH48	987701.73	1063791.09	755.85
BH49	988027.58	1063881.97	759.29
BH50	988171.23	1063802.54	759.84
BH51	988362.1	1063941.62	761.28

Notes:
ft AMSL - feet above mean sea level

Table 4-1
Hydraulic Conductivity Testing Results
Former Nike BU 51/52 Launch Area Remedial Investigation
Hamburg, New York

Monitoring Well	Average Hydraulic Conductivity (ft/min)	Average Hydraulic Conductivity (cm/sec)
NHFLA-MW-2	4.49E-03	2.28E-03
NHFLA-MW-6	2.39E-03	1.21E-03
NHFLA-MW-8	5.98E-03	3.04E-03
NHFLA-MW-5OB	3.02E-03	1.54E-03
NHFLA-MW-16	1.98E-05	1.00E-05

Notes:
1. Rising and falling head tests performed at all wells
2. Data analyzed using Bouwer & Rice and KGS methods.
ft/min - feet per minute
cm/sec - centimeters per second

Table 4-2a
Soil Analytical Results - VOCs and PCBs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

				Location ID	NHFLA-MW1OB			NHFLA-MW2		NHFLA-MW3				
				Sample ID [1]	NHFLA-MW1OB-A-AUG2020	NHFLA-MW1OB-B-AUG2020	NHFLA-MW1OB-C-AUG2020	NHFLA-MW2-A-AUG2020	NHFLA-MW2-B-AUG2020	NHFLA-MW3-A-AUG2020	NHFLA-DUP3-AUG2020 (FD)	NHFLA-MW3-B-AUG2020	NHFLA-DUP4-AUG2020 (FD)
				Sample Type [2]	N	N	N	N	N	N	FD	N	FD
				Sample Date	2020-08-19	2020-08-19	2020-08-19	2020-08-24	2020-08-24	2020-08-31	2020-08-31	2020-08-31	2020-08-31
				Start Depth (ft bgs)	0	1	5	0	1	0	0	1	1
				End Depth (ft bgs)	1	3	7	1	3	1	1	3	3
Constituent	CASRN	Residential RSL [3]	Industrial RSL [3]	Units									
Volatile Organic Compounds (VOCs)													
1,1,1-Trichloroethane	71-55-6	810,000	3,600,000	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U
1,1,2,2-Tetrachloroethane	79-34-5	600	2,700	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	670,000	2,800,000	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U
1,1,2-Trichloroethane	79-00-5	150	630	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U
1,1-Dichloroethane	75-34-3	3,600	16,000	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U
1,1-Dichloroethene	75-35-4	23,000	100,000	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U
1,2,3-Trichlorobenzene	87-61-6	6,300	93,000	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 UJ
1,2,4-Trichlorobenzene	120-82-1	5,800	26,000	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 UJ
1,2-Dibromo-3-chloropropane	96-12-8	5.3	64	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U
1,2-Dibromoethane	106-93-4	36	160	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U
1,2-Dichlorobenzene	95-50-1	180,000	930,000	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 UJ
1,2-Dichloroethane	107-06-2	460	2,000	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U
1,2-Dichloropropane	78-87-5	1,600	6,600	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U
1,3-Dichlorobenzene	541-73-1	--	--	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 UJ
1,4-Dichlorobenzene	106-46-7	2,600	11,000	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 UJ
2-Butanone	78-93-3	2,700,000	19,000,000	µg/kg	12.0 U	**14.0 J**	11.0 U	14.0 U	12.0 U	10.0 UJ	13.0 U	12.0 UJ	11.0 U
2-Hexanone	591-78-6	20,000	130,000	µg/kg	12.0 U	12.0 U	11.0 U	14.0 U	12.0 U	10.0 UJ	13.0 U	12.0 UJ	11.0 U
4-Methyl-2-pentanone	108-10-1	3,300,000	14,000,000	µg/kg	12.0 U	12.0 U	11.0 U	14.0 U	12.0 U	10.0 UJ	13.0 U	12.0 UJ	11.0 U
Acetone	67-64-1	6,100,000	67,000,000	µg/kg	12.0 U	**81**	**31**	14.0 U	12.0 U	10.0 UJ	13.0 U	12.0 UJ	11.0 U
Benzene	71-43-2	1,200	5,100	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U
Bromochloromethane	74-97-5	15,000	63,000	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U
Bromodichloromethane	75-27-4	290	1,300	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U
Bromoform	75-25-2	19,000	86,000	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U
Bromomethane	74-83-9	680	3,000	µg/kg	4.80 U	5.00 U	4.60 U	5.50 U	4.70 U	4.20 UJ	5.10 U	5.00 UJ	4.40 U
Carbon disulfide	75-15-0	77,000	350,000	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U
Carbon tetrachloride	56-23-5	650	2,900	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U
Chlorobenzene	108-90-7	28,000	130,000	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 UJ
Chloroethane	75-00-3	1,400,000	5,700,000	µg/kg	4.80 U	5.00 U	4.60 U	5.50 U	4.70 U	4.20 UJ	5.10 U	5.00 UJ	4.40 U
Chloroform	67-66-3	320	1,400	µg/kg	2.40 UJ	2.50 UJ	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U
Chloromethane	74-87-3	11,000	46,000	µg/kg	4.80 U	5.00 U	4.60 U	5.50 U	4.70 U	4.20 UJ	5.10 U	5.00 UJ	4.40 U
cis-1,2-Dichloroethene	156-59-2	16,000	230,000	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U
cis-1,3-Dichloropropene	10061-01-5	1,800	8,200	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U
Cyclohexane	110-82-7	650,000	2,700,000	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U
Dibromochloromethane	124-48-1	8,300	39,000	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U
Dichlorodifluoromethane (CFC-12)	75-71-8	8,700	37,000	µg/kg	4.80 U	5.00 U	4.60 U	5.50 U	4.70 U	4.20 UJ	5.10 U	5.00 UJ	4.40 U
Ethylbenzene	100-41-4	5,800	25,000	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U
Isopropylbenzene	98-82-8	190,000	990,000	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U
m,p-Xylene [4]	108-38-3;106-42-3	55,000	240,000	µg/kg	4.80 U	5.00 U	4.60 U	5.50 U	4.70 U	4.20 UJ	5.10 U	5.00 UJ	4.40 U
Methyl acetate	79-20-9	7,800,000	120,000,000	µg/kg	2.90 U	3.00 U	2.70 U	3.30 U	2.80 U	2.50 UJ	3.00 U	3.00 UJ	2.60 U
Methyl tert-butyl ether	1634-04-4	47,000	210,000	µg/kg	2.40 UJ	2.50 UJ	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U
Methylcyclohexane	108-87-2	--	--	µg/kg	2.40 U	2.50 U	**1.30 J**	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U
Methylene chloride	75-09-2	35,000	320,000	µg/kg	12.0 UJ	12.0 UJ	11.0 U	14.0 U	12.0 U	21.0 UJ	25.0 U	25.0 UJ	22.0 U
o-Xylene	95-47-6	65,000	280,000	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U
Styrene	100-42-5	600,000	3,500,000	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U
Tetrachloroethene	127-18-4	8,100	39,000	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U
Toluene	108-88-3	490,000	4,700,000	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U
trans-1,2-Dichloroethene	156-60-5	7,000	30,000	µg/kg	2.40 UJ	2.50 UJ	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U

Table 4-2a
Soil Analytical Results - VOCs and PCBs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

				Location ID	NHFLA-MW1OB			NHFLA-MW2		NHFLA-MW3			
				Sample ID [1]	NHFLA-MW1OB-A-AUG2020	NHFLA-MW1OB-B-AUG2020	NHFLA-MW1OB-C-AUG2020	NHFLA-MW2-A-AUG2020	NHFLA-MW2-B-AUG2020	NHFLA-MW3-A-AUG2020	NHFLA-DUP3-AUG2020 (FD)	NHFLA-MW3-B-AUG2020	NHFLA-DUP4-AUG2020 (FD)
				Sample Type [2]	N	N	N	N	N	N	FD	N	FD
				Sample Date	2020-08-19	2020-08-19	2020-08-19	2020-08-24	2020-08-24	2020-08-31	2020-08-31	2020-08-31	2020-08-31
				Start Depth (ft bgs)	0	1	5	0	1	0	0	1	1
				End Depth (ft bgs)	1	3	7	1	3	1	1	3	3
Constituent	**CASRN**	**Residential RSL [3]**	**Industrial RSL [3]**	**Units**									
trans-1,3-Dichloropropene	10061-02-6	1,800	8,200	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U
Trichloroethene	79-01-6	410	1,900	µg/kg	2.40 U	2.50 U	2.30 U	2.70 U	2.30 U	2.10 UJ	2.50 U	2.50 UJ	2.20 U
Trichlorofluoromethane (CFC-11)	75-69-4	2,300,000	35,000,000	µg/kg	4.80 U	5.00 U	4.60 U	5.50 U	4.70 U	4.20 UJ	5.10 U	5.00 UJ	4.40 U
Vinyl chloride	75-01-4	59	1,700	µg/kg	4.80 U	5.00 U	4.60 U	5.50 U	4.70 U	4.20 UJ	5.10 U	5.00 UJ	4.40 U
Polychlorinated Biphenyls (PCBs)													
PCB-1016 (Aroclor 1016)	12674-11-2	410	5100	µg/kg	--	--	--	--	--	--	--	--	--
PCB-1221 (Aroclor 1221)	11104-28-2	200	830	µg/kg	--	--	--	--	--	--	--	--	--
PCB-1232 (Aroclor 1232)	11141-16-5	170	720	µg/kg	--	--	--	--	--	--	--	--	--
PCB-1242 (Aroclor 1242)	53469-21-9	230	950	µg/kg	--	--	--	--	--	--	--	--	--
PCB-1248 (Aroclor 1248)	12672-29-6	230	940	µg/kg	--	--	--	--	--	--	--	--	--
PCB-1254 (Aroclor 1254)	11097-69-1	120	970	µg/kg	--	--	--	--	--	--	--	--	--
PCB-1260 (Aroclor 1260)	11096-82-5	240	990	µg/kg	--	--	--	--	--	--	--	--	--

Notes:

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs), "B" to designate first subsurface interval (generally 1 to 3 ft bgs), and "C" to designate second subsurface interval (various depths).

2. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

3. Screening levels are the USEPA RSLs for residential or industrial soil. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

4. Screening level is for m-xylenes.

Detected concentrations are bolded.

Acronymns and Abbreviations:

-- = not available or not analyzed.

CASRN = Chemical Abstracts Service Registry Number.

ft = feet.

ft bgs = feet below ground surface.

LOD = limit of detection.

RSL = Regional Screening Level.

µg/kg = micrograms per kilogram.

Qualifier Definitions:

U = The analyte was not detected and was reported as less than the LOD.

J = The reported result was an estimated value.

UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.

USEPA = United States Environmental Protection Agency

Reference: USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-2a
Soil Analytical Results - VOCs and PCBs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

				Location ID	NHFLA-MW4OB		NHFLA-MW5OB			NHFLA-MW6	
				Sample ID [1]	NHFLA-MW4OB-A-SEP2020	NHFLA-MW4OB-B-SEP2020	NHFLA-MW5OB-A-AUG2020	NHFLA-MW5OB-B-AUG2020	NHFLA-MW5OB-C-AUG2020	NHFLA-MW6-A-AUG2020	NHFLA-MW6-B-AUG2020
				Sample Type [2]	N	N	N	N	N	N	N
				Sample Date	2020-09-01	2020-09-01	2020-08-18	2020-08-18	2020-08-18	2020-08-26	2020-08-26
				Start Depth (ft bgs)	0	1	0	1	15	0	1
				End Depth (ft bgs)	1	3	1	3	17	1	3
Constituent	**CASRN**	**Residential RSL [3]**	**Industrial RSL [3]**	**Units**							
Volatile Organic Compounds (VOCs)											
1,1,1-Trichloroethane	71-55-6	810,000	3,600,000	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
1,1,2,2-Tetrachloroethane	79-34-5	600	2,700	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	670,000	2,800,000	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
1,1,2-Trichloroethane	79-00-5	150	630	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
1,1-Dichloroethane	75-34-3	3,600	16,000	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
1,1-Dichloroethene	75-35-4	23,000	100,000	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
1,2,3-Trichlorobenzene	87-61-6	6,300	93,000	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
1,2,4-Trichlorobenzene	120-82-1	5,800	26,000	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
1,2-Dibromo-3-chloropropane	96-12-8	5.3	64	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
1,2-Dibromoethane	106-93-4	36	160	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
1,2-Dichlorobenzene	95-50-1	180,000	930,000	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
1,2-Dichloroethane	107-06-2	460	2,000	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
1,2-Dichloropropane	78-87-5	1,600	6,600	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
1,3-Dichlorobenzene	541-73-1	--	--	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
1,4-Dichlorobenzene	106-46-7	2,600	11,000	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
2-Butanone	78-93-3	2,700,000	19,000,000	µg/kg	13.0 UJ	12.0 U	13.0 U	9.40 U	10.0 U	11.0 U	13.0 U
2-Hexanone	591-78-6	20,000	130,000	µg/kg	13.0 UJ	12.0 U	13.0 U	9.40 U	10.0 U	11.0 U	13.0 U
4-Methyl-2-pentanone	108-10-1	3,300,000	14,000,000	µg/kg	13.0 UJ	12.0 U	13.0 U	9.40 U	10.0 U	11.0 U	13.0 U
Acetone	67-64-1	6,100,000	67,000,000	µg/kg	13.0 UJ	12.0 U	13.0 U	9.40 U	**5.50 J**	11.0 U	13.0 U
Benzene	71-43-2	1,200	5,100	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
Bromochloromethane	74-97-5	15,000	63,000	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
Bromodichloromethane	75-27-4	290	1,300	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
Bromoform	75-25-2	19,000	86,000	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
Bromomethane	74-83-9	680	3,000	µg/kg	5.30 UJ	5.00 U	5.40 U	3.80 U	4.00 U	4.40 U	5.10 U
Carbon disulfide	75-15-0	77,000	350,000	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	**0.710 J**	2.20 U	2.50 U
Carbon tetrachloride	56-23-5	650	2,900	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
Chlorobenzene	108-90-7	28,000	130,000	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
Chloroethane	75-00-3	1,400,000	5,700,000	µg/kg	5.30 UJ	5.00 U	5.40 U	3.80 U	4.00 U	4.40 U	5.10 U
Chloroform	67-66-3	320	1,400	µg/kg	2.60 UJ	2.50 U	2.70 UJ	1.90 UJ	2.00 UJ	2.20 U	2.50 U
Chloromethane	74-87-3	11,000	46,000	µg/kg	5.30 UJ	5.00 U	5.40 U	3.80 U	4.00 U	4.40 U	5.10 U
cis-1,2-Dichloroethene	156-59-2	16,000	230,000	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
cis-1,3-Dichloropropene	10061-01-5	1,800	8,200	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
Cyclohexane	110-82-7	650,000	2,700,000	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
Dibromochloromethane	124-48-1	8,300	39,000	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
Dichlorodifluoromethane (CFC-12)	75-71-8	8,700	37,000	µg/kg	5.30 UJ	5.00 U	5.40 U	3.80 U	4.00 U	4.40 U	5.10 U
Ethylbenzene	100-41-4	5,800	25,000	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
Isopropylbenzene	98-82-8	190,000	990,000	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
m,p-Xylene [4]	108-38-3;106-42-3	55,000	240,000	µg/kg	5.30 UJ	5.00 U	5.40 U	3.80 U	4.00 U	4.40 U	5.10 U
Methyl acetate	79-20-9	7,800,000	120,000,000	µg/kg	3.20 UJ	3.00 U	3.20 U	2.30 U	2.40 U	2.60 U	3.00 U
Methyl tert-butyl ether	1634-04-4	47,000	210,000	µg/kg	2.60 UJ	2.50 U	2.70 UJ	1.90 UJ	2.00 UJ	2.20 U	2.50 U
Methylcyclohexane	108-87-2	--	--	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	**1.70 J**	2.20 U	2.50 U
Methylene chloride	75-09-2	35,000	320,000	µg/kg	**15.0 J**	**8.00 J**	13.0 UJ	9.40 UJ	10.0 UJ	**12.0 J**	**12.0 J**
o-Xylene	95-47-6	65,000	280,000	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
Styrene	100-42-5	600,000	3,500,000	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
Tetrachloroethene	127-18-4	8,100	39,000	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
Toluene	108-88-3	490,000	4,700,000	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
trans-1,2-Dichloroethene	156-60-5	7,000	30,000	µg/kg	2.60 UJ	2.50 U	2.70 UJ	1.90 UJ	2.00 UJ	2.20 U	2.50 U

Table 4-2a
Soil Analytical Results - VOCs and PCBs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

				Location ID	NHFLA-MW4OB		NHFLA-MW5OB			NHFLA-MW6	
				Sample ID [1]	NHFLA-MW4OB-A-SEP2020	NHFLA-MW4OB-B-SEP2020	NHFLA-MW5OB-A-AUG2020	NHFLA-MW5OB-B-AUG2020	NHFLA-MW5OB-C-AUG2020	NHFLA-MW6-A-AUG2020	NHFLA-MW6-B-AUG2020
				Sample Type [2]	N	N	N	N	N	N	N
				Sample Date	2020-09-01	2020-09-01	2020-08-18	2020-08-18	2020-08-18	2020-08-26	2020-08-26
				Start Depth (ft bgs)	0	1	0	1	15	0	1
				End Depth (ft bgs)	1	3	1	3	17	1	3
Constituent	CASRN	Residential RSL [3]	Industrial RSL [3]	Units							
trans-1,3-Dichloropropene	10061-02-6	1,800	8,200	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
Trichloroethene	79-01-6	410	1,900	µg/kg	2.60 UJ	2.50 U	2.70 U	1.90 U	2.00 U	2.20 U	2.50 U
Trichlorofluoromethane (CFC-11)	75-69-4	2,300,000	35,000,000	µg/kg	5.30 UJ	5.00 U	5.40 U	3.80 U	4.00 U	4.40 U	5.10 U
Vinyl chloride	75-01-4	59	1,700	µg/kg	5.30 UJ	5.00 U	5.40 U	3.80 U	4.00 U	4.40 U	5.10 U
Polychlorinated Biphenyls (PCBs)											
PCB-1016 (Aroclor 1016)	12674-11-2	410	5100	µg/kg	--	--	--	--	--	--	--
PCB-1221 (Aroclor 1221)	11104-28-2	200	830	µg/kg	--	--	--	--	--	--	--
PCB-1232 (Aroclor 1232)	11141-16-5	170	720	µg/kg	--	--	--	--	--	--	--
PCB-1242 (Aroclor 1242)	53469-21-9	230	950	µg/kg	--	--	--	--	--	--	--
PCB-1248 (Aroclor 1248)	12672-29-6	230	940	µg/kg	--	--	--	--	--	--	--
PCB-1254 (Aroclor 1254)	11097-69-1	120	970	µg/kg	--	--	--	--	--	--	--
PCB-1260 (Aroclor 1260)	11096-82-5	240	990	µg/kg	--	--	--	--	--	--	--

Notes:

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs), "B" to designate first subsurface interval (generally 1 to 3 ft bgs), and "C" to designate second subsurface interval (various depths).

2. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

3. Screening levels are the USEPA RSLs for residential or industrial soil. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

4. Screening level is for m-xylenes.

Detected concentrations are bolded.

Acronymns and Abbreviations:

-- = not available or not analyzed.

CASRN = Chemical Abstracts Service Registry Number.

ft = feet.

ft bgs = feet below ground surface.

LOD = limit of detection.

RSL = Regional Screening Level.

µg/kg = micrograms per kilogram.

Qualifier Definitions:

U = The analyte was not detected and was reported as less than the LOD.

J = The reported result was an estimated value.

UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.

USEPA = United States Environmental Protection Agency

Reference: USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-2a
Soil Analytical Results - VOCs and PCBs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

				Location ID	NHFLA-MW7OB			NHFLA-MW8			NHFLA-MW9OB	
				Sample ID [1]	NHFLA-MW7OB-A-AUG2020	NHFLA-MW7OB-B-AUG2020	NHFLA-MW7OB-C-AUG2020	NHFLA-MW8-A-SEP2020	NHFLA-MW8-B-SEP2020	NHFLA-DUP5-SEP2020 (FD)	NHFLA-MW9OB-A-AUG2020	NHFLA-MW9OB-B-AUG2020
				Sample Type [2]	N	N	N	N	N	FD	N	N
				Sample Date	2020-08-20	2020-08-20	2020-08-20	2020-09-01	2020-09-01	2020-09-01	2020-08-20	2020-08-20
				Start Depth (ft bgs)	0	1.2	3	0	1	1	0	1.4
				End Depth (ft bgs)	0.5	3	5	0.3	3	3	0.4	3
Constituent	**CASRN**	**Residential RSL [3]**	**Industrial RSL [3]**	**Units**								
Volatile Organic Compounds (VOCs)												
1,1,1-Trichloroethane	71-55-6	810,000	3,600,000	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
1,1,2,2-Tetrachloroethane	79-34-5	600	2,700	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	670,000	2,800,000	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
1,1,2-Trichloroethane	79-00-5	150	630	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
1,1-Dichloroethane	75-34-3	3,600	16,000	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
1,1-Dichloroethene	75-35-4	23,000	100,000	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
1,2,3-Trichlorobenzene	87-61-6	6,300	93,000	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
1,2,4-Trichlorobenzene	120-82-1	5,800	26,000	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
1,2-Dibromo-3-chloropropane	96-12-8	5.3	64	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
1,2-Dibromoethane	106-93-4	36	160	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
1,2-Dichlorobenzene	95-50-1	180,000	930,000	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
1,2-Dichloroethane	107-06-2	460	2,000	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
1,2-Dichloropropane	78-87-5	1,600	6,600	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
1,3-Dichlorobenzene	541-73-1	--	--	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
1,4-Dichlorobenzene	106-46-7	2,600	11,000	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
2-Butanone	78-93-3	2,700,000	19,000,000	µg/kg	12.0 U	11.0 U	10.0 U	12.0 U	**29.0 J**	**22.0 J**	18.0 U	14.0 U
2-Hexanone	591-78-6	20,000	130,000	µg/kg	12.0 U	11.0 U	10.0 U	12.0 U	13.0 UJ	13.0 U	18.0 U	14.0 U
4-Methyl-2-pentanone	108-10-1	3,300,000	14,000,000	µg/kg	12.0 U	11.0 U	10.0 U	12.0 U	13.0 UJ	13.0 U	18.0 U	14.0 U
Acetone	67-64-1	6,100,000	67,000,000	µg/kg	12.0 U	11.0 U	**9.80 J**	12.0 U	**140 J**	**120**	**61.0 J**	14.0 U
Benzene	71-43-2	1,200	5,100	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
Bromochloromethane	74-97-5	15,000	63,000	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
Bromodichloromethane	75-27-4	290	1,300	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
Bromoform	75-25-2	19,000	86,000	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
Bromomethane	74-83-9	680	3,000	µg/kg	4.90 U	4.50 U	4.10 U	4.80 U	5.00 UJ	5.10 U	7.40 U	5.50 U
Carbon disulfide	75-15-0	77,000	350,000	µg/kg	2.40 U	2.20 U	**2.30 J**	2.40 U	**0.950 J**	**1.10 J**	**3.00 J**	2.80 U
Carbon tetrachloride	56-23-5	650	2,900	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
Chlorobenzene	108-90-7	28,000	130,000	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
Chloroethane	75-00-3	1,400,000	5,700,000	µg/kg	4.90 U	4.50 U	4.10 U	4.80 U	5.00 UJ	5.10 U	7.40 U	5.50 U
Chloroform	67-66-3	320	1,400	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
Chloromethane	74-87-3	11,000	46,000	µg/kg	4.90 U	4.50 U	4.10 U	4.80 U	5.00 UJ	5.10 U	7.40 U	5.50 U
cis-1,2-Dichloroethene	156-59-2	16,000	230,000	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
cis-1,3-Dichloropropene	10061-01-5	1,800	8,200	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
Cyclohexane	110-82-7	650,000	2,700,000	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
Dibromochloromethane	124-48-1	8,300	39,000	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
Dichlorodifluoromethane (CFC-12)	75-71-8	8,700	37,000	µg/kg	4.90 U	4.50 U	4.10 U	4.80 U	5.00 UJ	5.10 U	7.40 U	5.50 U
Ethylbenzene	100-41-4	5,800	25,000	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
Isopropylbenzene	98-82-8	190,000	990,000	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
m,p-Xylene [4]	108-38-3;106-42-3	55,000	240,000	µg/kg	4.90 U	4.50 U	4.10 U	4.80 U	5.00 UJ	5.10 U	7.40 U	5.50 U
Methyl acetate	79-20-9	7,800,000	120,000,000	µg/kg	2.90 U	2.70 U	2.50 U	2.90 U	3.00 UJ	3.00 U	4.40 U	3.30 U
Methyl tert-butyl ether	1634-04-4	47,000	210,000	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	**1.50 J**	2.50 U	3.70 U	2.80 U
Methylcyclohexane	108-87-2	--	--	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	**1.80 J**	**0.980 J**	3.70 U	2.80 U
Methylene chloride	75-09-2	35,000	320,000	µg/kg	12.0 U	11.0 U	10.0 U	**8.50 J**	**8.80 J**	13.0 U	**29.0 J**	14.0 U
o-Xylene	95-47-6	65,000	280,000	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
Styrene	100-42-5	600,000	3,500,000	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
Tetrachloroethene	127-18-4	8,100	39,000	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
Toluene	108-88-3	490,000	4,700,000	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	**4.70 J**	2.50 U	**8.20 J**	**5.10 J**
trans-1,2-Dichloroethene	156-60-5	7,000	30,000	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U

Table 4-2a
Soil Analytical Results - VOCs and PCBs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

				Location ID	NHFLA-MW7OB			NHFLA-MW8			NHFLA-MW9OB	
				Sample ID [1]	NHFLA-MW7OB-A-AUG2020	NHFLA-MW7OB-B-AUG2020	NHFLA-MW7OB-C-AUG2020	NHFLA-MW8-A-SEP2020	NHFLA-MW8-B-SEP2020	NHFLA-DUP5-SEP2020 (FD)	NHFLA-MW9OB-A-AUG2020	NHFLA-MW9OB-B-AUG2020
				Sample Type [2]	N	N	N	N	N	FD	N	N
				Sample Date	2020-08-20	2020-08-20	2020-08-20	2020-09-01	2020-09-01	2020-09-01	2020-08-20	2020-08-20
				Start Depth (ft bgs)	0	1.2	3	0	1	1	0	1.4
				End Depth (ft bgs)	0.5	3	5	0.3	3	3	0.4	3
Constituent	**CASRN**	**Residential RSL [3]**	**Industrial RSL [3]**	**Units**								
trans-1,3-Dichloropropene	10061-02-6	1,800	8,200	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
Trichloroethene	79-01-6	410	1,900	µg/kg	2.40 U	2.20 U	2.00 U	2.40 U	2.50 UJ	2.50 U	3.70 U	2.80 U
Trichlorofluoromethane (CFC-11)	75-69-4	2,300,000	35,000,000	µg/kg	4.90 U	4.50 U	4.10 U	4.80 U	5.00 UJ	5.10 U	7.40 U	5.50 U
Vinyl chloride	75-01-4	59	1,700	µg/kg	4.90 U	4.50 U	4.10 U	4.80 U	5.00 UJ	5.10 U	7.40 U	5.50 U
Polychlorinated Biphenyls (PCBs)												
PCB-1016 (Aroclor 1016)	12674-11-2	410	5100	µg/kg	--	--	--	--	--	--	--	--
PCB-1221 (Aroclor 1221)	11104-28-2	200	830	µg/kg	--	--	--	--	--	--	--	--
PCB-1232 (Aroclor 1232)	11141-16-5	170	720	µg/kg	--	--	--	--	--	--	--	--
PCB-1242 (Aroclor 1242)	53469-21-9	230	950	µg/kg	--	--	--	--	--	--	--	--
PCB-1248 (Aroclor 1248)	12672-29-6	230	940	µg/kg	--	--	--	--	--	--	--	--
PCB-1254 (Aroclor 1254)	11097-69-1	120	970	µg/kg	--	--	--	--	--	--	--	--
PCB-1260 (Aroclor 1260)	11096-82-5	240	990	µg/kg	--	--	--	--	--	--	--	--

Notes:

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs), "B" to designate first subsurface interval (generally 1 to 3 ft bgs), and "C" to designate second subsurface interval (various depths).

2. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

3. Screening levels are the USEPA RSLs for residential or industrial soil. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

4. Screening level is for m-xylenes.

Detected concentrations are bolded.

Acronymns and Abbreviations:

-- = not available or not analyzed.
CASRN = Chemical Abstracts Service Registry Number.
ft = feet.
ft bgs = feet below ground surface.
LOD = limit of detection.
RSL = Regional Screening Level.
µg/kg = micrograms per kilogram.
Qualifier Definitions:
U = The analyte was not detected and was reported as less than the LOD.
J = The reported result was an estimated value.
UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.
USEPA = United States Environmental Protection Agency

Reference: USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-2a
Soil Analytical Results - VOCs and PCBs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Location ID					NHFLA-MW10			NHFLA-MW11		NHFLA-MW12	NHFLA-MW13		
Sample ID [1]					NHFLA-MW10-A-AUG2020	NHFLA-MW10-B-AUG2020	NHFLA-MW10-C-AUG2020	NHFLA-MW11-B-SEP2020	NHFLA-MW11-C-SEP2020	NHFLA-MW12-B-SEP2020	NHFLA-MW13-A-AUG2020	NHFLA-MW13-B-AUG2020	NHFLA-MW13-C-AUG2020
Sample Type [2]					N	N	N	N	N	N	N	N	N
Sample Date					2020-08-25	2020-08-25	2020-08-25	2020-09-03	2020-09-03	2020-09-03	2020-08-27	2020-08-27	2020-08-27
Start Depth (ft bgs)					0	1	3	1	5	2	0	1	3.5
End Depth (ft bgs)					1	3	4	2.1	6	2.1	1	3	5.5
Constituent	**CASRN**	**Residential RSL [3]**	**Industrial RSL [3]**	**Units**									
Volatile Organic Compounds (VOCs)													
1,1,1-Trichloroethane	71-55-6	810,000	3,600,000	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U
1,1,2,2-Tetrachloroethane	79-34-5	600	2,700	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	670,000	2,800,000	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U
1,1,2-Trichloroethane	79-00-5	150	630	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U
1,1-Dichloroethane	75-34-3	3,600	16,000	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U
1,1-Dichloroethene	75-35-4	23,000	100,000	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U
1,2,3-Trichlorobenzene	87-61-6	6,300	93,000	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U
1,2,4-Trichlorobenzene	120-82-1	5,800	26,000	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U
1,2-Dibromo-3-chloropropane	96-12-8	5.3	64	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U
1,2-Dibromoethane	106-93-4	36	160	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U
1,2-Dichlorobenzene	95-50-1	180,000	930,000	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U
1,2-Dichloroethane	107-06-2	460	2,000	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U
1,2-Dichloropropane	78-87-5	1,600	6,600	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U
1,3-Dichlorobenzene	541-73-1	--	--	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U
1,4-Dichlorobenzene	106-46-7	2,600	11,000	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U
2-Butanone	78-93-3	2,700,000	19,000,000	µg/kg	12.0 U	8.30 U	14.0 U	10.0 U	11.0 U	12.0 U	11.0 UJ	10.0 UJ	**9.70 J**
2-Hexanone	591-78-6	20,000	130,000	µg/kg	12.0 U	8.30 U	14.0 U	10.0 U	11.0 U	12.0 U	11.0 UJ	10.0 UJ	10.0 U
4-Methyl-2-pentanone	108-10-1	3,300,000	14,000,000	µg/kg	12.0 U	8.30 U	14.0 U	10.0 U	11.0 U	12.0 U	11.0 UJ	10.0 UJ	10.0 U
Acetone	67-64-1	6,100,000	67,000,000	µg/kg	12.0 U	8.30 U	14.0 U	10.0 U	**100**	**17.0 J**	11.0 UJ	**18.0 J**	**49.0 J**
Benzene	71-43-2	1,200	5,100	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	**1.20 J**	**3.00 J**	2.30 UJ	2.10 UJ	2.10 U
Bromochloromethane	74-97-5	15,000	63,000	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U
Bromodichloromethane	75-27-4	290	1,300	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U
Bromoform	75-25-2	19,000	86,000	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U
Bromomethane	74-83-9	680	3,000	µg/kg	4.80 U	3.30 U	5.70 U	4.10 U	4.60 U	4.60 U	4.60 UJ	4.20 UJ	4.10 U
Carbon disulfide	75-15-0	77,000	350,000	µg/kg	2.40 U	**0.530 J**	2.90 U	2.10 U	2.30 U	**0.890 J**	2.30 UJ	2.10 UJ	2.10 U
Carbon tetrachloride	56-23-5	650	2,900	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U
Chlorobenzene	108-90-7	28,000	130,000	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U
Chloroethane	75-00-3	1,400,000	5,700,000	µg/kg	4.80 U	3.30 U	5.70 U	4.10 U	4.60 U	4.60 U	4.60 UJ	4.20 UJ	4.10 U
Chloroform	67-66-3	320	1,400	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U
Chloromethane	74-87-3	11,000	46,000	µg/kg	4.80 U	3.30 U	5.70 U	4.10 U	4.60 U	4.60 U	4.60 UJ	4.20 UJ	4.10 U
cis-1,2-Dichloroethene	156-59-2	16,000	230,000	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U
cis-1,3-Dichloropropene	10061-01-5	1,800	8,200	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U
Cyclohexane	110-82-7	650,000	2,700,000	µg/kg	2.40 U	**1.30 J**	2.90 U	2.10 U	2.30 U	**7.2**	2.30 UJ	2.10 UJ	2.10 U
Dibromochloromethane	124-48-1	8,300	39,000	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U
Dichlorodifluoromethane (CFC-12)	75-71-8	8,700	37,000	µg/kg	4.80 U	3.30 U	5.70 U	4.10 U	4.60 U	4.60 U	4.60 UJ	4.20 UJ	4.10 U
Ethylbenzene	100-41-4	5,800	25,000	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U
Isopropylbenzene	98-82-8	190,000	990,000	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U
m,p-Xylene [4]	108-38-3;106-42-3	55,000	240,000	µg/kg	4.80 U	3.30 U	5.70 U	4.10 U	4.60 U	**2.40 J**	4.60 UJ	4.20 UJ	4.10 U
Methyl acetate	79-20-9	7,800,000	120,000,000	µg/kg	2.90 U	2.00 U	3.40 U	2.50 U	2.70 U	2.80 U	2.70 UJ	2.50 UJ	2.50 U
Methyl tert-butyl ether	1634-04-4	47,000	210,000	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U
Methylcyclohexane	108-87-2	--	--	µg/kg	2.40 U	**2.50 J**	2.90 U	2.10 U	2.30 U	**10**	2.30 UJ	2.10 UJ	**1.30 J**
Methylene chloride	75-09-2	35,000	320,000	µg/kg	**8.30 J**	**8.70 J**	14.0 U	**8.00 J**	**10.0 J**	12.0 U	23.0 UJ	21.0 UJ	21.0 U
o-Xylene	95-47-6	65,000	280,000	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	**1.20 J**	2.30 UJ	2.10 UJ	2.10 U
Styrene	100-42-5	600,000	3,500,000	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U
Tetrachloroethene	127-18-4	8,100	39,000	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U
Toluene	108-88-3	490,000	4,700,000	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	**14**	**3.00 J**	2.30 UJ	2.10 UJ	2.10 U
trans-1,2-Dichloroethene	156-60-5	7,000	30,000	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U

Table 4-2a
Soil Analytical Results - VOCs and PCBs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

				Location ID	NHFLA-MW10			NHFLA-MW11		NHFLA-MW12	NHFLA-MW13		
				Sample ID [1]	NHFLA-MW10-A-AUG2020	NHFLA-MW10-B-AUG2020	NHFLA-MW10-C-AUG2020	NHFLA-MW11-B-SEP2020	NHFLA-MW11-C-SEP2020	NHFLA-MW12-B-SEP2020	NHFLA-MW13-A-AUG2020	NHFLA-MW13-B-AUG2020	NHFLA-MW13-C-AUG2020
				Sample Type [2]	N	N	N	N	N	N	N	N	N
				Sample Date	2020-08-25	2020-08-25	2020-08-25	2020-09-03	2020-09-03	2020-09-03	2020-08-27	2020-08-27	2020-08-27
				Start Depth (ft bgs)	0	1	3	1	5	2	0	1	3.5
				End Depth (ft bgs)	1	3	4	2.1	6	2.1	1	3	5.5
Constituent	**CASRN**	**Residential RSL [3]**	**Industrial RSL [3]**	**Units**									
trans-1,3-Dichloropropene	10061-02-6	1,800	8,200	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U
Trichloroethene	79-01-6	410	1,900	µg/kg	2.40 U	1.60 U	2.90 U	2.10 U	2.30 U	2.30 U	2.30 UJ	2.10 UJ	2.10 U
Trichlorofluoromethane (CFC-11)	75-69-4	2,300,000	35,000,000	µg/kg	4.80 U	3.30 U	5.70 U	4.10 U	4.60 U	4.60 U	4.60 UJ	4.20 UJ	4.10 U
Vinyl chloride	75-01-4	59	1,700	µg/kg	4.80 U	3.30 U	5.70 U	4.10 U	4.60 U	4.60 U	4.60 UJ	4.20 UJ	4.10 U
Polychlorinated Biphenyls (PCBs)													
PCB-1016 (Aroclor 1016)	12674-11-2	410	5100	µg/kg	--	--	--	9.70 U	--	--	--	--	--
PCB-1221 (Aroclor 1221)	11104-28-2	200	830	µg/kg	--	--	--	9.70 U	--	--	--	--	--
PCB-1232 (Aroclor 1232)	11141-16-5	170	720	µg/kg	--	--	--	11.0 U	--	--	--	--	--
PCB-1242 (Aroclor 1242)	53469-21-9	230	950	µg/kg	--	--	--	9.70 U	--	--	--	--	--
PCB-1248 (Aroclor 1248)	12672-29-6	230	940	µg/kg	--	--	--	9.70 U	--	--	--	--	--
PCB-1254 (Aroclor 1254)	11097-69-1	120	970	µg/kg	--	--	--	9.70 U	--	--	--	--	--
PCB-1260 (Aroclor 1260)	11096-82-5	240	990	µg/kg	--	--	--	9.70 U	--	--	--	--	--

Notes:

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs), "B" to designate first subsurface interval (generally 1 to 3 ft bgs), and "C" to designate second subsurface interval (various depths).

2. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

3. Screening levels are the USEPA RSLs for residential or industrial soil. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

4. Screening level is for m-xylenes.

Detected concentrations are bolded.

Acronymns and Abbreviations:

-- = not available or not analyzed.

CASRN = Chemical Abstracts Service Registry Number.

ft = feet.

ft bgs = feet below ground surface.

LOD = limit of detection.

RSL = Regional Screening Level.

µg/kg = micrograms per kilogram.

Qualifier Definitions:

U = The analyte was not detected and was reported as less than the LOD.

J = The reported result was an estimated value.

UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.

USEPA = United States Environmental Protection Agency

Reference: USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-2a
Soil Analytical Results - VOCs and PCBs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

				Location ID	NHFLA-MW14		NHFLA-MW15				
				Sample ID [1]	NHFLA-MW14-A-SEP2020	NHFLA-MW14-B-SEP2020	NHFLA-MW15-A-AUG2020	NHFLA-DUP1-AUG2020 (FD)	NHFLA-MW15-B-AUG2020	NHFLA-DUP2-AUG2020 (FD)	NHFLA-MW15-C-AUG2020
				Sample Type [2]	N	N	N	FD	N	FD	N
				Sample Date	2020-09-02	2020-09-02	2020-08-26	2020-08-26	2020-08-26	2020-08-26	2020-08-26
				Start Depth (ft bgs)	0	1.3	0	0	1	1	3
				End Depth (ft bgs)	1	2.8	1	1	3	3	4.4
Constituent	**CASRN**	**Residential RSL [3]**	**Industrial RSL [3]**	**Units**							
Volatile Organic Compounds (VOCs)											
1,1,1-Trichloroethane	71-55-6	810,000	3,600,000	µg/kg	2.30 UJ	2.20 U	2.20 U	2.40 U	2.20 UJ	2.00 U	2.90 U
1,1,2,2-Tetrachloroethane	79-34-5	600	2,700	µg/kg	2.30 UJ	2.20 U	2.20 UJ	2.40 UJ	2.20 UJ	2.00 U	2.90 U
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	670,000	2,800,000	µg/kg	2.30 UJ	2.20 U	2.20 U	2.40 U	2.20 UJ	2.00 U	2.90 U
1,1,2-Trichloroethane	79-00-5	150	630	µg/kg	2.30 UJ	2.20 U	2.20 UJ	2.40 UJ	2.20 UJ	2.00 U	2.90 U
1,1-Dichloroethane	75-34-3	3,600	16,000	µg/kg	2.30 UJ	2.20 U	2.20 U	2.40 U	2.20 UJ	2.00 U	2.90 U
1,1-Dichloroethene	75-35-4	23,000	100,000	µg/kg	2.30 UJ	2.20 U	2.20 U	2.40 U	2.20 UJ	2.00 U	2.90 U
1,2,3-Trichlorobenzene	87-61-6	6,300	93,000	µg/kg	2.30 UJ	2.20 U	2.20 UJ	2.40 UJ	2.20 UJ	2.00 UJ	2.90 U
1,2,4-Trichlorobenzene	120-82-1	5,800	26,000	µg/kg	2.30 UJ	2.20 U	2.20 UJ	2.40 UJ	2.20 UJ	2.00 UJ	2.90 U
1,2-Dibromo-3-chloropropane	96-12-8	5.3	64	µg/kg	2.30 UJ	2.20 U	2.20 UJ	2.40 UJ	2.20 UJ	2.00 U	2.90 U
1,2-Dibromoethane	106-93-4	36	160	µg/kg	2.30 UJ	2.20 U	2.20 UJ	2.40 UJ	2.20 UJ	2.00 UJ	2.90 U
1,2-Dichlorobenzene	95-50-1	180,000	930,000	µg/kg	2.30 UJ	2.20 U	2.20 UJ	2.40 UJ	2.20 UJ	2.00 UJ	2.90 U
1,2-Dichloroethane	107-06-2	460	2,000	µg/kg	2.30 UJ	2.20 U	2.20 U	2.40 U	2.20 UJ	2.00 U	2.90 U
1,2-Dichloropropane	78-87-5	1,600	6,600	µg/kg	2.30 UJ	2.20 U	2.20 UJ	2.40 UJ	2.20 UJ	2.00 U	2.90 U
1,3-Dichlorobenzene	541-73-1	--	--	µg/kg	2.30 UJ	2.20 U	2.20 UJ	2.40 UJ	2.20 UJ	2.00 UJ	2.90 U
1,4-Dichlorobenzene	106-46-7	2,600	11,000	µg/kg	2.30 UJ	2.20 U	2.20 UJ	2.40 UJ	2.20 UJ	2.00 UJ	2.90 U
2-Butanone	78-93-3	2,700,000	19,000,000	µg/kg	12.0 UJ	11.0 U	11.0 U	12.0 U	11.0 UJ	10.0 U	14.0 U
2-Hexanone	591-78-6	20,000	130,000	µg/kg	12.0 UJ	11.0 U	11.0 UJ	12.0 UJ	11.0 UJ	10.0 U	14.0 U
4-Methyl-2-pentanone	108-10-1	3,300,000	14,000,000	µg/kg	12.0 UJ	11.0 U	11.0 UJ	12.0 UJ	11.0 UJ	10.0 U	14.0 U
Acetone	67-64-1	6,100,000	67,000,000	µg/kg	12.0 UJ	11.0 U	11.0 U	12.0 U	**5.40 J**	10.0 U	14.0 U
Benzene	71-43-2	1,200	5,100	µg/kg	2.30 UJ	2.20 U	2.20 UJ	2.40 UJ	2.20 UJ	2.00 U	2.90 U
Bromochloromethane	74-97-5	15,000	63,000	µg/kg	2.30 UJ	2.20 U	2.20 UJ	2.40 UJ	2.20 UJ	2.00 U	2.90 U
Bromodichloromethane	75-27-4	290	1,300	µg/kg	2.30 UJ	2.20 U	2.20 UJ	2.40 UJ	2.20 UJ	2.00 U	2.90 U
Bromoform	75-25-2	19,000	86,000	µg/kg	2.30 UJ	2.20 U	2.20 UJ	2.40 UJ	2.20 UJ	2.00 U	2.90 U
Bromomethane	74-83-9	680	3,000	µg/kg	4.60 UJ	4.50 U	4.40 U	4.80 U	4.30 UJ	4.00 U	5.80 U
Carbon disulfide	75-15-0	77,000	350,000	µg/kg	2.30 UJ	2.20 U	**0.750 J**	2.40 U	2.20 UJ	2.00 U	2.90 U
Carbon tetrachloride	56-23-5	650	2,900	µg/kg	2.30 UJ	2.20 U	2.20 U	2.40 U	2.20 UJ	2.00 U	2.90 U
Chlorobenzene	108-90-7	28,000	130,000	µg/kg	2.30 UJ	2.20 U	2.20 UJ	2.40 UJ	2.20 UJ	2.00 UJ	2.90 U
Chloroethane	75-00-3	1,400,000	5,700,000	µg/kg	4.60 UJ	4.50 U	4.40 U	4.80 U	4.30 UJ	4.00 U	5.80 U
Chloroform	67-66-3	320	1,400	µg/kg	2.30 UJ	2.20 U	2.20 U	2.40 U	2.20 UJ	2.00 U	2.90 U
Chloromethane	74-87-3	11,000	46,000	µg/kg	4.60 UJ	4.50 U	4.40 U	4.80 U	4.30 UJ	4.00 U	5.80 U
cis-1,2-Dichloroethene	156-59-2	16,000	230,000	µg/kg	2.30 UJ	2.20 U	2.20 UJ	2.40 UJ	2.20 UJ	2.00 U	2.90 U
cis-1,3-Dichloropropene	10061-01-5	1,800	8,200	µg/kg	2.30 UJ	2.20 U	2.20 UJ	2.40 UJ	2.20 UJ	2.00 U	2.90 U
Cyclohexane	110-82-7	650,000	2,700,000	µg/kg	2.30 UJ	2.20 U	2.20 U	2.40 U	2.20 UJ	2.00 U	2.90 U
Dibromochloromethane	124-48-1	8,300	39,000	µg/kg	2.30 UJ	2.20 U	2.20 UJ	2.40 UJ	2.20 UJ	2.00 U	2.90 U
Dichlorodifluoromethane (CFC-12)	75-71-8	8,700	37,000	µg/kg	4.60 UJ	4.50 U	4.40 U	4.80 U	4.30 UJ	4.00 U	5.80 U
Ethylbenzene	100-41-4	5,800	25,000	µg/kg	2.30 UJ	2.20 U	2.20 UJ	2.40 UJ	2.20 UJ	2.00 UJ	2.90 U
Isopropylbenzene	98-82-8	190,000	990,000	µg/kg	2.30 UJ	2.20 U	2.20 UJ	2.40 UJ	2.20 UJ	2.00 U	2.90 U
m,p-Xylene [4]	108-38-3;106-42-3	55,000	240,000	µg/kg	4.60 UJ	4.50 U	4.40 UJ	4.80 UJ	4.30 UJ	4.00 UJ	5.80 U
Methyl acetate	79-20-9	7,800,000	120,000,000	µg/kg	2.80 UJ	2.70 U	2.60 UJ	2.90 UJ	2.60 UJ	2.40 U	3.50 U
Methyl tert-butyl ether	1634-04-4	47,000	210,000	µg/kg	2.30 UJ	2.20 U	2.20 U	2.40 U	2.20 UJ	2.00 U	2.90 U
Methylcyclohexane	108-87-2	--	--	µg/kg	2.30 UJ	2.20 U	2.20 UJ	2.40 UJ	2.20 UJ	2.00 U	2.90 U
Methylene chloride	75-09-2	35,000	320,000	µg/kg	12.0 UJ	**7.10 J**	**10.0 J**	12.0 UJ	**12.0 J**	10.0 UJ	**11.0 J**
o-Xylene	95-47-6	65,000	280,000	µg/kg	2.30 UJ	2.20 U	2.20 UJ	2.40 UJ	2.20 UJ	2.00 UJ	2.90 U
Styrene	100-42-5	600,000	3,500,000	µg/kg	2.30 UJ	2.20 U	2.20 UJ	2.40 UJ	2.20 UJ	2.00 UJ	2.90 U
Tetrachloroethene	127-18-4	8,100	39,000	µg/kg	2.30 UJ	2.20 U	2.20 UJ	2.40 UJ	2.20 UJ	2.00 U	2.90 U
Toluene	108-88-3	490,000	4,700,000	µg/kg	2.30 UJ	**3.40 J**	2.20 UJ	2.40 UJ	2.20 UJ	2.00 U	2.90 U
trans-1,2-Dichloroethene	156-60-5	7,000	30,000	µg/kg	2.30 UJ	2.20 U	2.20 U	2.40 U	2.20 UJ	2.00 U	2.90 U

Table 4-2a
Soil Analytical Results - VOCs and PCBs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

				Location ID	NHFLA-MW14		NHFLA-MW15				
				Sample ID [1]	NHFLA-MW14-A-SEP2020	NHFLA-MW14-B-SEP2020	NHFLA-MW15-A-AUG2020	NHFLA-DUP1-AUG2020 (FD)	NHFLA-MW15-B-AUG2020	NHFLA-DUP2-AUG2020 (FD)	NHFLA-MW15-C-AUG2020
				Sample Type [2]	N	N	N	FD	N	FD	N
				Sample Date	2020-09-02	2020-09-02	2020-08-26	2020-08-26	2020-08-26	2020-08-26	2020-08-26
				Start Depth (ft bgs)	0	1.3	0	0	1	1	3
				End Depth (ft bgs)	1	2.8	1	1	3	3	4.4
Constituent	**CASRN**	**Residential RSL [3]**	**Industrial RSL [3]**	**Units**							
trans-1,3-Dichloropropene	10061-02-6	1,800	8,200	µg/kg	2.30 UJ	2.20 U	2.20 UJ	2.40 UJ	2.20 UJ	2.00 U	2.90 U
Trichloroethene	79-01-6	410	1,900	µg/kg	2.30 UJ	2.20 U	2.20 UJ	2.40 UJ	2.20 UJ	2.00 U	2.90 U
Trichlorofluoromethane (CFC-11)	75-69-4	2,300,000	35,000,000	µg/kg	4.60 UJ	4.50 U	4.40 U	4.80 U	4.30 UJ	4.00 U	5.80 U
Vinyl chloride	75-01-4	59	1,700	µg/kg	4.60 UJ	4.50 U	4.40 U	4.80 U	4.30 UJ	4.00 U	5.80 U
Polychlorinated Biphenyls (PCBs)											
PCB-1016 (Aroclor 1016)	12674-11-2	410	5100	µg/kg	--	--	--	--	--	--	--
PCB-1221 (Aroclor 1221)	11104-28-2	200	830	µg/kg	--	--	--	--	--	--	--
PCB-1232 (Aroclor 1232)	11141-16-5	170	720	µg/kg	--	--	--	--	--	--	--
PCB-1242 (Aroclor 1242)	53469-21-9	230	950	µg/kg	--	--	--	--	--	--	--
PCB-1248 (Aroclor 1248)	12672-29-6	230	940	µg/kg	--	--	--	--	--	--	--
PCB-1254 (Aroclor 1254)	11097-69-1	120	970	µg/kg	--	--	--	--	--	--	--
PCB-1260 (Aroclor 1260)	11096-82-5	240	990	µg/kg	--	--	--	--	--	--	--

Notes:

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs), "B" to designate first subsurface interval (generally 1 to 3 ft bgs), and "C" to designate second subsurface interval (various depths).

2. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

3. Screening levels are the USEPA RSLs for residential or industrial soil. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

4. Screening level is for m-xylenes.

Detected concentrations are bolded.

Acronymns and Abbreviations:

-- = not available or not analyzed.

CASRN = Chemical Abstracts Service Registry Number.

ft = feet.

ft bgs = feet below ground surface.

LOD = limit of detection.

RSL = Regional Screening Level.

µg/kg = micrograms per kilogram.

Qualifier Definitions:

U = The analyte was not detected and was reported as less than the LOD.

J = The reported result was an estimated value.

UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.

USEPA = United States Environmental Protection Agency

Reference: USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-2a
Soil Analytical Results - VOCs and PCBs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Location ID					NHFLA-MW16			NHFLA-SL11A		NHFLA-SL11B	NHFLA-SL25	NHFLA-SL26	NHFLA-SL27
Sample ID [1]					NHFLA-MW16-A-AUG2020	NHFLA-MW16-B-AUG2020	NHFLA-MW16-C-AUG2020	NHFLA-SL11A-A-SEP2020	NHFLA-DUP7-SEP2020 (FD)	NHFLA-SL11B-A-SEP2020	NHFLA-SL25-A-SEP2020	NHFLA-SL26-A-SEP2020	NHFLA-SL27-A-SEP2020
Sample Type [2]					N	N	N	N	FD	N	N	N	N
Sample Date					2020-08-21	2020-08-21	2020-08-21	2020-09-11	2020-09-11	2020-09-11	2020-09-11	2020-09-16	2020-09-16
Start Depth (ft bgs)					0.5	1	15	0	0	0	0	0	0
End Depth (ft bgs)					1	3	17	1	1	2	1	1	1
Constituent	CASRN	Residential RSL [3]	Industrial RSL [3]	Units									
Volatile Organic Compounds (VOCs)													
1,1,1-Trichloroethane	71-55-6	810,000	3,600,000	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
1,1,2,2-Tetrachloroethane	79-34-5	600	2,700	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	670,000	2,800,000	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
1,1,2-Trichloroethane	79-00-5	150	630	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
1,1-Dichloroethane	75-34-3	3,600	16,000	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
1,1-Dichloroethene	75-35-4	23,000	100,000	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
1,2,3-Trichlorobenzene	87-61-6	6,300	93,000	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
1,2,4-Trichlorobenzene	120-82-1	5,800	26,000	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
1,2-Dibromo-3-chloropropane	96-12-8	5.3	64	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
1,2-Dibromoethane	106-93-4	36	160	µg/kg	1.70 U	2.30 U	2.60 U	2.30 U	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
1,2-Dichlorobenzene	95-50-1	180,000	930,000	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	**1.60 J**	2.40 U	3.40 U	2.90 U
1,2-Dichloroethane	107-06-2	460	2,000	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
1,2-Dichloropropane	78-87-5	1,600	6,600	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
1,3-Dichlorobenzene	541-73-1	--	--	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
1,4-Dichlorobenzene	106-46-7	2,600	11,000	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
2-Butanone	78-93-3	2,700,000	19,000,000	µg/kg	8.50 U	11.0 U	**19.0 J**	12.0 U	13.0 UJ	11.0 U	12.0 U	17.0 U	14.0 U
2-Hexanone	591-78-6	20,000	130,000	µg/kg	8.50 U	11.0 U	13.0 U	12.0 U	13.0 UJ	11.0 U	12.0 U	17.0 U	14.0 U
4-Methyl-2-pentanone	108-10-1	3,300,000	14,000,000	µg/kg	8.50 U	11.0 U	13.0 U	12.0 U	13.0 UJ	11.0 U	12.0 U	17.0 U	14.0 U
Acetone	67-64-1	6,100,000	67,000,000	µg/kg	**7.20 J**	11.0 U	**160**	12.0 U	**6.50 J**	**14.0 J**	12.0 U	17.0 U	14.0 U
Benzene	71-43-2	1,200	5,100	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
Bromochloromethane	74-97-5	15,000	63,000	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
Bromodichloromethane	75-27-4	290	1,300	µg/kg	1.70 U	2.30 U	2.60 U	2.30 U	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
Bromoform	75-25-2	19,000	86,000	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
Bromomethane	74-83-9	680	3,000	µg/kg	3.40 U	4.50 U	5.20 U	4.60 U	5.20 UJ	4.20 U	4.80 U	6.70 U	5.70 U
Carbon disulfide	75-15-0	77,000	350,000	µg/kg	1.70 U	2.30 U	**1.60 J**	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
Carbon tetrachloride	56-23-5	650	2,900	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
Chlorobenzene	108-90-7	28,000	130,000	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
Chloroethane	75-00-3	1,400,000	5,700,000	µg/kg	3.40 U	4.50 U	5.20 U	4.60 U	5.20 UJ	4.20 U	4.80 U	6.70 U	5.70 U
Chloroform	67-66-3	320	1,400	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
Chloromethane	74-87-3	11,000	46,000	µg/kg	3.40 U	4.50 U	5.20 U	4.60 U	5.20 UJ	4.20 U	4.80 U	6.70 U	5.70 U
cis-1,2-Dichloroethene	156-59-2	16,000	230,000	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
cis-1,3-Dichloropropene	10061-01-5	1,800	8,200	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
Cyclohexane	110-82-7	650,000	2,700,000	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
Dibromochloromethane	124-48-1	8,300	39,000	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
Dichlorodifluoromethane (CFC-12)	75-71-8	8,700	37,000	µg/kg	3.40 U	4.50 U	5.20 U	4.60 U	5.20 UJ	4.20 U	4.80 U	6.70 U	5.70 U
Ethylbenzene	100-41-4	5,800	25,000	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
Isopropylbenzene	98-82-8	190,000	990,000	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
m,p-Xylene [4]	108-38-3;106-42-3	55,000	240,000	µg/kg	3.40 U	4.50 U	5.20 U	4.60 UJ	5.20 UJ	4.20 U	4.80 U	6.70 U	5.70 U
Methyl acetate	79-20-9	7,800,000	120,000,000	µg/kg	2.00 U	2.70 U	3.10 U	2.80 U	3.10 UJ	2.50 U	2.90 U	4.00 U	3.40 U
Methyl tert-butyl ether	1634-04-4	47,000	210,000	µg/kg	1.70 U	2.30 U	2.60 U	4.60 U	5.20 UJ	4.20 U	4.80 U	6.70 U	5.70 U
Methylcyclohexane	108-87-2	--	--	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
Methylene chloride	75-09-2	35,000	320,000	µg/kg	**5.60 J**	11.0 U	13.0 U	12.0 U	**9.90 J**	11.0 U	12.0 U	17.0 U	14.0 U
o-Xylene	95-47-6	65,000	280,000	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
Styrene	100-42-5	600,000	3,500,000	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
Tetrachloroethene	127-18-4	8,100	39,000	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
Toluene	108-88-3	490,000	4,700,000	µg/kg	1.70 U	**3.80 J**	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
trans-1,2-Dichloroethene	156-60-5	7,000	30,000	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U

Table 4-2a
Soil Analytical Results - VOCs and PCBs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Location ID					NHFLA-MW16			NHFLA-SL11A		NHFLA-SL11B	NHFLA-SL25	NHFLA-SL26	NHFLA-SL27
Sample ID [1]					NHFLA-MW16-A-AUG2020	NHFLA-MW16-B-AUG2020	NHFLA-MW16-C-AUG2020	NHFLA-SL11A-A-SEP2020	NHFLA-DUP7-SEP2020 (FD)	NHFLA-SL11B-A-SEP2020	NHFLA-SL25-A-SEP2020	NHFLA-SL26-A-SEP2020	NHFLA-SL27-A-SEP2020
Sample Type [2]					N	N	N	N	FD	N	N	N	N
Sample Date					2020-08-21	2020-08-21	2020-08-21	2020-09-11	2020-09-11	2020-09-11	2020-09-11	2020-09-16	2020-09-16
Start Depth (ft bgs)					0.5	1	15	0	0	0	0	0	0
End Depth (ft bgs)					1	3	17	1	1	2	1	1	1
Constituent	CASRN	Residential RSL [3]	Industrial RSL [3]	Units									
trans-1,3-Dichloropropene	10061-02-6	1,800	8,200	µg/kg	1.70 U	2.30 U	2.60 U	2.30 U	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
Trichloroethene	79-01-6	410	1,900	µg/kg	1.70 U	2.30 U	2.60 U	2.30 UJ	2.60 UJ	2.10 U	2.40 U	3.40 U	2.90 U
Trichlorofluoromethane (CFC-11)	75-69-4	2,300,000	35,000,000	µg/kg	3.40 U	4.50 U	5.20 U	4.60 UJ	5.20 UJ	4.20 U	4.80 U	6.70 U	5.70 U
Vinyl chloride	75-01-4	59	1,700	µg/kg	3.40 U	4.50 U	5.20 U	4.60 U	5.20 UJ	4.20 U	4.80 U	6.70 U	5.70 U
Polychlorinated Biphenyls (PCBs)													
PCB-1016 (Aroclor 1016)	12674-11-2	410	5100	µg/kg	--	--	--	8.80 U	8.90 UJ	9.60 U	--	--	--
PCB-1221 (Aroclor 1221)	11104-28-2	200	830	µg/kg	--	--	--	8.80 U	8.90 UJ	9.60 U	--	--	--
PCB-1232 (Aroclor 1232)	11141-16-5	170	720	µg/kg	--	--	--	10.0 U	10.0 UJ	11.0 U	--	--	--
PCB-1242 (Aroclor 1242)	53469-21-9	230	950	µg/kg	--	--	--	8.80 U	8.90 UJ	9.60 U	--	--	--
PCB-1248 (Aroclor 1248)	12672-29-6	230	940	µg/kg	--	--	--	8.80 U	8.90 UJ	9.60 U	--	--	--
PCB-1254 (Aroclor 1254)	11097-69-1	120	970	µg/kg	--	--	--	8.80 U	8.90 UJ	9.60 U	--	--	--
PCB-1260 (Aroclor 1260)	11096-82-5	240	990	µg/kg	--	--	--	8.80 U	8.90 UJ	9.60 U	--	--	--

Notes:

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs), "B" to designate first subsurface interval (generally 1 to 3 ft bgs), and "C" to designate second subsurface interval (various depths).

2. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

3. Screening levels are the USEPA RSLs for residential or industrial soil. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

4. Screening level is for m-xylenes.

Detected concentrations are bolded.

Acronymns and Abbreviations:

-- = not available or not analyzed.
CASRN = Chemical Abstracts Service Registry Number.
ft = feet.
ft bgs = feet below ground surface.
LOD = limit of detection.
RSL = Regional Screening Level.
µg/kg = micrograms per kilogram.
Qualifier Definitions:
U = The analyte was not detected and was reported as less than the LOD.
J = The reported result was an estimated value.
UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.
USEPA = United States Environmental Protection Agency

Reference: USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-2a
Soil Analytical Results - VOCs and PCBs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

				Location ID	NHFLA-SL28	NHFLA-SL29	NHFLA-SL31	
				Sample ID [1]	NHFLA-SL28-A-SEP2020	NHFLA-SL29-A-SEP2020	NHFLA-SL31-A-SEP2020	NHFLA-DUP10-SEP2020 (FD)
				Sample Type [2]	N	N	N	FD
				Sample Date	2020-09-16	2020-09-17	2020-09-16	2020-09-16
				Start Depth (ft bgs)	0	0	0	0
				End Depth (ft bgs)	1	1	1	1
Constituent	CASRN	Residential RSL [3]	Industrial RSL [3]	Units				
Volatile Organic Compounds (VOCs)								
1,1,1-Trichloroethane	71-55-6	810,000	3,600,000	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
1,1,2,2-Tetrachloroethane	79-34-5	600	2,700	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	670,000	2,800,000	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
1,1,2-Trichloroethane	79-00-5	150	630	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
1,1-Dichloroethane	75-34-3	3,600	16,000	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
1,1-Dichloroethene	75-35-4	23,000	100,000	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
1,2,3-Trichlorobenzene	87-61-6	6,300	93,000	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
1,2,4-Trichlorobenzene	120-82-1	5,800	26,000	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
1,2-Dibromo-3-chloropropane	96-12-8	5.3	64	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
1,2-Dibromoethane	106-93-4	36	160	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
1,2-Dichlorobenzene	95-50-1	180,000	930,000	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
1,2-Dichloroethane	107-06-2	460	2,000	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
1,2-Dichloropropane	78-87-5	1,600	6,600	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
1,3-Dichlorobenzene	541-73-1	--	--	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
1,4-Dichlorobenzene	106-46-7	2,600	11,000	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
2-Butanone	78-93-3	2,700,000	19,000,000	µg/kg	14.0 U	12.0 U	15.0 U	12.0 UJ
2-Hexanone	591-78-6	20,000	130,000	µg/kg	14.0 U	12.0 U	15.0 U	12.0 UJ
4-Methyl-2-pentanone	108-10-1	3,300,000	14,000,000	µg/kg	14.0 U	12.0 U	15.0 U	12.0 UJ
Acetone	67-64-1	6,100,000	67,000,000	µg/kg	14.0 U	12.0 U	15.0 U	12.0 UJ
Benzene	71-43-2	1,200	5,100	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
Bromochloromethane	74-97-5	15,000	63,000	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
Bromodichloromethane	75-27-4	290	1,300	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
Bromoform	75-25-2	19,000	86,000	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
Bromomethane	74-83-9	680	3,000	µg/kg	5.60 U	5.00 U	5.90 U	4.90 UJ
Carbon disulfide	75-15-0	77,000	350,000	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
Carbon tetrachloride	56-23-5	650	2,900	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
Chlorobenzene	108-90-7	28,000	130,000	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
Chloroethane	75-00-3	1,400,000	5,700,000	µg/kg	5.60 U	5.00 U	5.90 U	4.90 UJ
Chloroform	67-66-3	320	1,400	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
Chloromethane	74-87-3	11,000	46,000	µg/kg	5.60 U	5.00 U	5.90 U	4.90 UJ
cis-1,2-Dichloroethene	156-59-2	16,000	230,000	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
cis-1,3-Dichloropropene	10061-01-5	1,800	8,200	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
Cyclohexane	110-82-7	650,000	2,700,000	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
Dibromochloromethane	124-48-1	8,300	39,000	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
Dichlorodifluoromethane (CFC-12)	75-71-8	8,700	37,000	µg/kg	5.60 U	5.00 U	5.90 U	4.90 UJ
Ethylbenzene	100-41-4	5,800	25,000	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
Isopropylbenzene	98-82-8	190,000	990,000	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
m,p-Xylene [4]	108-38-3;106-42-3	55,000	240,000	µg/kg	5.60 U	5.00 U	5.90 U	4.90 UJ
Methyl acetate	79-20-9	7,800,000	120,000,000	µg/kg	3.30 U	3.00 U	3.50 U	3.00 UJ
Methyl tert-butyl ether	1634-04-4	47,000	210,000	µg/kg	5.60 U	5.00 U	5.90 U	4.90 UJ
Methylcyclohexane	108-87-2	--	--	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
Methylene chloride	75-09-2	35,000	320,000	µg/kg	14.0 U	12.0 U	15.0 U	**7.90 J**
o-Xylene	95-47-6	65,000	280,000	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
Styrene	100-42-5	600,000	3,500,000	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
Tetrachloroethene	127-18-4	8,100	39,000	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
Toluene	108-88-3	490,000	4,700,000	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
trans-1,2-Dichloroethene	156-60-5	7,000	30,000	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ

Table 4-2a
Soil Analytical Results - VOCs and PCBs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

				Location ID	NHFLA-SL28	NHFLA-SL29	NHFLA-SL31	
				Sample ID [1]	NHFLA-SL28-A-SEP2020	NHFLA-SL29-A-SEP2020	NHFLA-SL31-A-SEP2020	NHFLA-DUP10-SEP2020 (FD)
				Sample Type [2]	N	N	N	FD
				Sample Date	2020-09-16	2020-09-17	2020-09-16	2020-09-16
				Start Depth (ft bgs)	0	0	0	0
				End Depth (ft bgs)	1	1	1	1
Constituent	CASRN	Residential RSL [3]	Industrial RSL [3]	Units				
trans-1,3-Dichloropropene	10061-02-6	1,800	8,200	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
Trichloroethene	79-01-6	410	1,900	µg/kg	2.80 U	2.50 U	2.90 U	2.50 UJ
Trichlorofluoromethane (CFC-11)	75-69-4	2,300,000	35,000,000	µg/kg	5.60 U	5.00 U	5.90 U	4.90 UJ
Vinyl chloride	75-01-4	59	1,700	µg/kg	5.60 U	5.00 U	5.90 U	4.90 UJ
Polychlorinated Biphenyls (PCBs)								
PCB-1016 (Aroclor 1016)	12674-11-2	410	5100	µg/kg	--	--	--	--
PCB-1221 (Aroclor 1221)	11104-28-2	200	830	µg/kg	--	--	--	--
PCB-1232 (Aroclor 1232)	11141-16-5	170	720	µg/kg	--	--	--	--
PCB-1242 (Aroclor 1242)	53469-21-9	230	950	µg/kg	--	--	--	--
PCB-1248 (Aroclor 1248)	12672-29-6	230	940	µg/kg	--	--	--	--
PCB-1254 (Aroclor 1254)	11097-69-1	120	970	µg/kg	--	--	--	--
PCB-1260 (Aroclor 1260)	11096-82-5	240	990	µg/kg	--	--	--	--

Notes:

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs), "B" to designate first subsurface interval (generally 1 to 3 ft bgs), and "C" to designate second subsurface interval (various depths).

2. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

3. Screening levels are the USEPA RSLs for residential or industrial soil. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

4. Screening level is for m-xylenes.

Detected concentrations are bolded.

Acronymns and Abbreviations:

-- = not available or not analyzed.
CASRN = Chemical Abstracts Service Registry Number.
ft = feet.
ft bgs = feet below ground surface.
LOD = limit of detection.
RSL = Regional Screening Level.
µg/kg = micrograms per kilogram.
Qualifier Definitions:
U = The analyte was not detected and was reported as less than the LOD.
J = The reported result was an estimated value.
UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.
USEPA = United States Environmental Protection Agency

Reference: USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-2b
Soil Analytical Results - SVOCs
Former Nike BU 51/52 Launch Area Remedial Investiagtion
Hamburg, New York

Location ID					NHFLA-MW1OB			NHFLA-MW2		NHFLA-MW3			
Sample ID [1]					NHFLA-MW1OB-A-AUG2020	NHFLA-MW1OB-B-AUG2020	NHFLA-MW1OB-C-AUG2020	NHFLA-MW2-A-AUG2020	NHFLA-MW2-B-AUG2020	NHFLA-MW3-A-AUG2020	NHFLA-DUP3-AUG2020 (FD)	NHFLA-MW3-B-AUG2020	NHFLA-DUP4-AUG2020 (FD)
Sample Type [2]					N	N	N	N	N	N	FD	N	FD
Sample Date					2020-08-19	2020-08-19	2020-08-19	2020-08-24	2020-08-24	2020-08-31	2020-08-31	2020-08-31	2020-08-31
Start Depth (ft bgs)					0	1	5	0	1	0	0	1	1
End Depth (ft bgs)					1	3	7	1	3	1	1	3	3
Constituent	CASRN	Residential RSL [3]	Industrial RSL [3]	Units									
Semi-Volatile Organic Compounds (SVOCs)													
1,1-Dimethylhydrazine	57-14-7	5.7	24	ng/g	0.100 U	0.0990 U	0.100 U	0.0990 UJ	0.100 UJ	0.100 U	0.100 U	0.0990 UJ	0.100 UJ
Hydrazine	302-01-2	32	140	ng/g	0.0500 U	0.0500 U	0.0500 U	0.0490 UJ	0.0500 UJ	0.0500 U	0.0510 U	R	R
Methyl hydrazine	60-34-4	100	440	ng/g	0.100 U	0.0990 U	0.100 U	0.0990 UJ	0.100 UJ	0.100 U	0.100 U	R	R
1,2,4,5-Tetrachlorobenzene	95-94-3	2,300	35,000	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
1,1-Biphenyl	92-52-4	4,700	20,000	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
1,4-Dioxane	123-91-1	5,300	24,000	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
2,2'-Oxybis(1-chloropropane)	108-60-1	310,000	4,700,000	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
2,4,5-Trichlorophenol	95-95-4	630,000	8,200,000	µg/kg	670 U	680 U	670 U	750 U	700 U	630 U	580 U	590 U	620 U
2,4,6-Trichlorophenol	88-06-2	6,300	82,000	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
2,4-Dichlorophenol	120-83-2	19,000	250,000	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
2,4-Dimethylphenol	105-67-9	130,000	1,600,000	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
2,4-Dinitrophenol	51-28-5	13,000	160,000	µg/kg	670 U	680 U	670 U	750 U	700 U	630 U	580 U	590 U	620 U
2,4-Dinitrotoluene	121-14-2	1,700	7,400	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
2,6-Dinitrotoluene	606-20-2	360	1,500	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
2-Chloronaphthalene	91-58-7	480,000	6,000,000	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
2-Chlorophenol	95-57-8	39,000	580,000	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
2-Methylphenol	95-48-7	320,000	4,100,000	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
2-Nitroaniline	88-74-4	63,000	800,000	µg/kg	670 U	680 U	670 U	750 U	700 U	630 U	580 U	590 U	620 U
2-Nitrophenol	88-75-5	--	--	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
3,3'-Dichlorobenzidine	91-94-1	1,200	5,100	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
3-Nitroaniline	99-09-2	--	--	µg/kg	670 UJ	680 UJ	670 UJ	750 U	700 U	630 U	580 U	590 U	620 U
4,6-Dinitro-2-methylphenol	534-52-1	510	6,600	µg/kg	670 U	680 U	670 U	750 U	700 U	630 U	580 U	590 U	620 U
4-Bromophenyl phenyl ether	101-55-3	--	--	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
4-Chloro-3-methylphenol	59-50-7	630,000	8,200,000	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
4-Chloroaniline	106-47-8	2,700	11,000	µg/kg	R	R	R	300 U	280 U	250 U	240 U	240 U	250 U
4-Chlorophenyl phenyl ether	7005-72-3	--	--	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
4-Nitroaniline	100-01-6	25,000	110,000	µg/kg	670 U	680 U	670 U	750 U	700 U	630 U	580 U	590 U	620 U
4-Nitrophenol	100-02-7	--	--	µg/kg	670 U	680 U	670 U	750 U	700 U	630 U	580 U	590 U	620 U
Acetophenone	98-86-2	780,000	12,000,000	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
Atrazine	1912-24-9	2,400	10,000	µg/kg	270 UJ	280 UJ	**140 J**	300 U	280 U	250 U	240 U	240 U	250 U
Benzaldehyde	100-52-7	170,000	820,000	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
Benzyl butyl phthalate	85-68-7	290,000	1,200,000	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
Bis(2-chloroethoxy)methane	111-91-1	19,000	250,000	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
Bis(2-chloroethyl)ether	111-44-4	230	1,000	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
Bis(2-ethylhexyl)phthalate	117-81-7	39,000	160,000	µg/kg	**5800 J**	**3700 J**	**5200 J**	**1800**	**1600**	760 U	1500 U	1000 U	1400 U
Caprolactam	105-60-2	3,100,000	40,000,000	µg/kg	270 UJ	280 UJ	270 UJ	300 UJ	280 UJ	250 UJ	240 UJ	240 UJ	250 UJ
Carbazole	86-74-8	--	--	µg/kg	270 U	280 U	**250 J**	300 U	280 U	250 U	240 U	240 U	250 U
Cresols, m- & p- [4]	108-39-4; 106-44-5	320,000	4,100,000	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
Dibenzofuran	132-64-9	7,800	120,000	µg/kg	270 U	280 U	**150 J**	300 U	280 U	250 U	240 U	240 U	250 U
Diethyl phthalate	84-66-2	5,100,000	66,000,000	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
Dimethyl phthalate	131-11-3	--	--	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
Di-n-butyl phthalate	84-74-2	630,000	8,200,000	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
di-n-Octyl phthalate	117-84-0	63,000	820,000	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
Hexachlorobenzene	118-74-1	210	960	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
Hexachlorobutadiene	87-68-3	1,200	5,300	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
Hexachlorocyclopentadiene	77-47-4	180	750	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U

Table 4-2b
Soil Analytical Results - SVOCs
Former Nike BU 51/52 Launch Area Remedial Investiagtion
Hamburg, New York

Location ID					NHFLA-MW1OB			NHFLA-MW2		NHFLA-MW3			
Sample ID [1]					NHFLA-MW1OB-A-AUG2020	NHFLA-MW1OB-B-AUG2020	NHFLA-MW1OB-C-AUG2020	NHFLA-MW2-A-AUG2020	NHFLA-MW2-B-AUG2020	NHFLA-MW3-A-AUG2020	NHFLA-DUP3-AUG2020 (FD)	NHFLA-MW3-B-AUG2020	NHFLA-DUP4-AUG2020 (FD)
Sample Type [2]					N	N	N	N	N	N	FD	N	FD
Sample Date					2020-08-19	2020-08-19	2020-08-19	2020-08-24	2020-08-24	2020-08-31	2020-08-31	2020-08-31	2020-08-31
Start Depth (ft bgs)					0	1	5	0	1	0	0	1	1
End Depth (ft bgs)					1	3	7	1	3	1	1	3	3
Constituent	CASRN	Residential RSL [3]	Industrial RSL [3]	Units									
Hexachloroethane	67-72-1	1,800	8,000	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
Isophorone	78-59-1	570,000	2,400,000	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
Nitrobenzene	98-95-3	5,100	22,000	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
N-Nitrosodi-n-propylamine	621-64-7	78	330	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
N-Nitrosodiphenylamine	86-30-6	110,000	470,000	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
Pentachlorophenol	87-86-5	1,000	4,000	µg/kg	670 U	680 U	670 U	750 U	700 U	630 U	580 U	590 U	620 U
Phenol	108-95-2	1,900,000	25,000,000	µg/kg	270 U	280 U	270 U	300 U	280 U	250 U	240 U	240 U	250 U
2-Methylnaphthalene	91-57-6	24,000	300,000	µg/kg	11.0 U	11.0 U	**45.0 J**	12.0 U	11.0 U	**3.90 J**	**4.20 J**	**2.50 J**	**2.30 J**
Acenaphthene	83-32-9	360,000	4,500,000	µg/kg	11.0 U	**17.0 J**	**140**	12.0 U	11.0 U	**10.0 J**	**10.0 J**	9.60 U	10.0 U
Acenaphthylene	208-96-8	--	--	µg/kg	11.0 U	**5.10 J**	**42.0 J**	12.0 U	11.0 U	10.0 U	9.50 U	9.60 U	10.0 U
Anthracene	120-12-7	1,800,000	23,000,000	µg/kg	**11.0 J**	**55**	**490**	**1.60 J**	11.0 U	**54**	**60**	**31.0 J**	**22.0 J**
Benzo(a)anthracene	56-55-3	1,100	21,000	µg/kg	**71**	**430**	**1100**	**14.0 J**	11.0 U	**460**	**570**	**230 J**	**180 J**
Benzo(a)pyrene	50-32-8	110	2,100	µg/kg	**72**	**380**	**1000**	**19.0 J**	**4.40 J**	**500**	**720**	**250 J**	**200 J**
Benzo(b)fluoranthene	205-99-2	1,100	21,000	µg/kg	**130**	**620**	**1300**	**42**	**8.90 J**	**790**	**900**	**350 J**	**280 J**
Benzo(g,h,i)perylene	191-24-2	--	--	µg/kg	**53**	**310**	**530**	24.0 U	11.0 U	**360**	**550**	**150 J**	**140 J**
Benzo(k)fluoranthene	207-08-9	11,000	210,000	µg/kg	**47**	**200**	**670**	**16.0 J**	11.0 U	**210**	**280**	**110 J**	**100 J**
Chrysene	218-01-9	110,000	2,100,000	µg/kg	**79**	**440**	**1300**	**15.0 J**	11.0 U	**540**	**660**	**250 J**	**200 J**
Dibenz(a,h)anthracene	53-70-3	110	2100	µg/kg	**14.0 J**	**86**	**150**	**7.60 J**	**4.10 J**	**94**	**130**	**47.0 J**	**25.0 J**
Fluoranthene	206-44-0	240,000	3,000,000	µg/kg	**130**	**660**	**2700**	**30**	11.0 U	**900**	**910**	**390 J**	**330 J**
Fluorene	86-73-7	240,000	3,000,000	µg/kg	**5.40 J**	**26**	**340**	12.0 U	11.0 U	**19.0 J**	**18.0 J**	**16.0 J**	**9.30 J**
Indeno(1,2,3-cd)pyrene	193-39-5	1,100	21,000	µg/kg	**49**	**280**	**710**	24.0 U	11.0 U	**300**	**420**	**140 J**	**140 J**
Naphthalene	91-20-3	2,000	8,600	µg/kg	11.0 U	**3.10 J**	**54.0 J**	12.0 U	11.0 U	10.0 U	9.50 U	9.60 U	10.0 U
Phenanthrene	85-01-8	--	--	µg/kg	**68**	**360**	**2400**	**12.0 J**	**11.0 J**	**330**	**350**	**190 J**	**160 J**
Pyrene	129-00-0	180,000	2,300,000	µg/kg	**130**	**860**	**2200**	**31**	11.0 U	**1000**	**1100**	**440 J**	**380 J**

Notes:

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs), "B" to designate first subsurface interval (generally 1 to 3 ft bgs), and "C" to designate second subsurface interval (various depths).

2. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

3. Screening levels are the USEPA RSLs for residential or industrial soil. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

4. Screening level is for m-cresol.

Detected concentrations are bolded.

Detected concentrations that exceed residential RSLs are bolded and shaded yellow.

Detected concentrations that exceed industrial RSLs are bolded and shaded orange.

Acronymns and Abbreviations:

-- = not available or not analyzed.

CASRN = Chemical Abstracts Service Registry Number.

ft = feet.

ft bgs = feet below ground surface.

LOD = limit of detection.

RSL = Regional Screening Level.

ng/g = nanograms per gram.

µg/kg = micrograms per kilogram.

Qualifier Definitions:

U = The analyte was not detected and was reported as less than the LOD.

J = The reported result was an estimated value.

UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.

R = The data validator flagged the data with “X” qualifiers due to significant QC deficiencies in the laboratory analysis of the samples. The project team performed data usability assessment and recommended these data to be rejected/ are not usable (“R” qualifiers).

Reference: USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-2b
Soil Analytical Results - SVOCs
Former Nike BU 51/52 Launch Area Remedial Investiagtion
Hamburg, New York

Location ID					NHFLA-MW4OB		NHFLA-MW5OB			NHFLA-MW6	
Sample ID [1]					NHFLA-MW4OB-A-SEP2020	NHFLA-MW4OB-B-SEP2020	NHFLA-MW5OB-A-AUG2020	NHFLA-MW5OB-B-AUG2020	NHFLA-MW5OB-C-AUG2020	NHFLA-MW6-A-AUG2020	NHFLA-MW6-B-AUG2020
Sample Type [2]					N	N	N	N	N	N	N
Sample Date					2020-09-01	2020-09-01	2020-08-18	2020-08-18	2020-08-18	2020-08-26	2020-08-26
Start Depth (ft bgs)					0	1	0	1	15	0	1
End Depth (ft bgs)					1	3	1	3	17	1	3
Constituent	CASRN	Residential RSL [3]	Industrial RSL [3]	Units							
Semi-Volatile Organic Compounds (SVOCs)											
1,1-Dimethylhydrazine	57-14-7	5.7	24	ng/g	0.100 U	0.100 U	0.100 U	0.100 U	0.0990 U	0.0980 U	0.100 U
Hydrazine	302-01-2	32	140	ng/g	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0500 U	0.0490 U	0.0500 U
Methyl hydrazine	60-34-4	100	440	ng/g	0.100 U	0.100 U	0.100 U	0.100 U	0.0990 U	0.0980 U	0.100 U
1,2,4,5-Tetrachlorobenzene	95-94-3	2,300	35,000	µg/kg	280 U	300 U	300 U	270 U	230 U	290 U	280 UJ
1,1-Biphenyl	92-52-4	4,700	20,000	µg/kg	280 U	300 U	300 U	270 U	230 U	290 U	280 UJ
1,4-Dioxane	123-91-1	5,300	24,000	µg/kg	280 UJ	300 UJ	300 U	270 U	230 U	290 U	280 UJ
2,2'-Oxybis(1-chloropropane)	108-60-1	310,000	4,700,000	µg/kg	280 U	300 U	300 U	270 U	230 U	290 U	280 UJ
2,4,5-Trichlorophenol	95-95-4	630,000	8,200,000	µg/kg	700 U	760 U	740 U	670 U	570 UJ	720 U	690 UJ
2,4,6-Trichlorophenol	88-06-2	6,300	82,000	µg/kg	280 U	300 U	300 U	270 U	230 UJ	290 U	280 UJ
2,4-Dichlorophenol	120-83-2	19,000	250,000	µg/kg	280 U	300 U	300 U	270 U	230 UJ	290 U	280 UJ
2,4-Dimethylphenol	105-67-9	130,000	1,600,000	µg/kg	280 U	300 U	300 U	270 U	230 UJ	290 U	280 UJ
2,4-Dinitrophenol	51-28-5	13,000	160,000	µg/kg	700 U	760 U	740 U	670 U	570 UJ	720 U	690 UJ
2,4-Dinitrotoluene	121-14-2	1,700	7,400	µg/kg	280 U	300 U	300 U	270 U	230 U	290 U	280 UJ
2,6-Dinitrotoluene	606-20-2	360	1,500	µg/kg	280 U	300 U	300 U	270 U	230 U	290 U	280 UJ
2-Chloronaphthalene	91-58-7	480,000	6,000,000	µg/kg	280 U	300 U	300 U	270 U	230 U	290 U	280 UJ
2-Chlorophenol	95-57-8	39,000	580,000	µg/kg	280 U	300 U	300 U	270 U	230 UJ	290 U	280 UJ
2-Methylphenol	95-48-7	320,000	4,100,000	µg/kg	280 U	300 U	300 U	270 U	230 UJ	290 U	280 UJ
2-Nitroaniline	88-74-4	63,000	800,000	µg/kg	700 U	760 U	740 U	670 U	570 U	720 U	690 UJ
2-Nitrophenol	88-75-5	--	--	µg/kg	280 U	300 U	300 U	270 U	230 UJ	290 U	280 UJ
3,3'-Dichlorobenzidine	91-94-1	1,200	5,100	µg/kg	280 U	300 U	300 U	270 U	230 U	290 U	280 UJ
3-Nitroaniline	99-09-2	--	--	µg/kg	700 U	760 U	740 UJ	670 UJ	570 UJ	720 U	690 UJ
4,6-Dinitro-2-methylphenol	534-52-1	510	6,600	µg/kg	700 U	760 U	740 U	670 U	570 UJ	720 U	690 UJ
4-Bromophenyl phenyl ether	101-55-3	--	--	µg/kg	280 U	300 U	300 U	270 U	230 UJ	290 U	280 UJ
4-Chloro-3-methylphenol	59-50-7	630,000	8,200,000	µg/kg	280 U	300 U	300 U	270 U	230 UJ	290 U	280 UJ
4-Chloroaniline	106-47-8	2,700	11,000	µg/kg	280 U	300 U	R	R	R	290 U	280 UJ
4-Chlorophenyl phenyl ether	7005-72-3	--	--	µg/kg	280 U	300 U	300 U	270 U	230 U	290 U	280 UJ
4-Nitroaniline	100-01-6	25,000	110,000	µg/kg	700 U	760 U	740 U	670 U	570 U	720 U	690 UJ
4-Nitrophenol	100-02-7	--	--	µg/kg	700 U	760 U	740 U	670 U	570 UJ	720 U	690 UJ
Acetophenone	98-86-2	780,000	12,000,000	µg/kg	280 U	300 U	300 U	270 U	230 U	290 U	280 UJ
Atrazine	1912-24-9	2,400	10,000	µg/kg	280 U	300 U	300 UJ	270 UJ	230 UJ	290 UJ	280 UJ
Benzaldehyde	100-52-7	170,000	820,000	µg/kg	280 UJ	300 UJ	300 U	270 U	230 U	290 U	280 UJ
Benzyl butyl phthalate	85-68-7	290,000	1,200,000	µg/kg	280 U	300 U	300 U	270 U	230 U	290 U	280 UJ
Bis(2-chloroethoxy)methane	111-91-1	19,000	250,000	µg/kg	280 U	300 U	300 U	270 U	230 U	290 U	280 UJ
Bis(2-chloroethyl)ether	111-44-4	230	1,000	µg/kg	280 U	300 U	300 U	270 U	230 U	290 U	280 UJ
Bis(2-ethylhexyl)phthalate	117-81-7	39,000	160,000	µg/kg	1200 U	660 U	**4600 J**	**9400 J**	**6400 J**	**2100 J**	**1400 J**
Caprolactam	105-60-2	3,100,000	40,000,000	µg/kg	280 UJ	300 UJ	**350 J**	270 UJ	**280 J**	290 UJ	280 UJ
Carbazole	86-74-8	--	--	µg/kg	280 U	300 U	300 U	270 U	230 U	290 U	280 UJ
Cresols, m- & p- [4]	108-39-4; 106-44-5	320,000	4,100,000	µg/kg	280 U	300 U	300 U	270 U	230 UJ	290 U	280 UJ
Dibenzofuran	132-64-9	7,800	120,000	µg/kg	280 U	300 U	300 U	270 U	230 U	290 U	280 UJ
Diethyl phthalate	84-66-2	5,100,000	66,000,000	µg/kg	280 U	300 U	300 U	270 U	230 U	290 U	280 UJ
Dimethyl phthalate	131-11-3	--	--	µg/kg	280 U	300 U	300 U	270 U	230 U	290 U	280 UJ
Di-n-butyl phthalate	84-74-2	630,000	8,200,000	µg/kg	280 U	300 U	300 U	270 U	230 U	290 U	280 UJ
di-n-Octyl phthalate	117-84-0	63,000	820,000	µg/kg	280 U	300 U	300 U	270 U	230 U	290 U	280 UJ
Hexachlorobenzene	118-74-1	210	960	µg/kg	280 U	300 U	300 U	270 U	230 U	290 U	280 UJ
Hexachlorobutadiene	87-68-3	1,200	5,300	µg/kg	280 U	300 U	300 U	270 U	230 U	290 U	280 UJ
Hexachlorocyclopentadiene	77-47-4	180	750	µg/kg	280 U	300 U	300 U	270 U	230 U	290 U	280 UJ

Table 4-2b
Soil Analytical Results - SVOCs
Former Nike BU 51/52 Launch Area Remedial Investiagtion
Hamburg, New York

					Location ID	NHFLA-MW4OB		NHFLA-MW5OB			NHFLA-MW6	
					Sample ID [1]	NHFLA-MW4OB-A-SEP2020	NHFLA-MW4OB-B-SEP2020	NHFLA-MW5OB-A-AUG2020	NHFLA-MW5OB-B-AUG2020	NHFLA-MW5OB-C-AUG2020	NHFLA-MW6-A-AUG2020	NHFLA-MW6-B-AUG2020
					Sample Type [2]	N	N	N	N	N	N	N
					Sample Date	2020-09-01	2020-09-01	2020-08-18	2020-08-18	2020-08-18	2020-08-26	2020-08-26
					Start Depth (ft bgs)	0	1	0	1	15	0	1
					End Depth (ft bgs)	1	3	1	3	17	1	3
Constituent	CASRN	Residential RSL [3]	Industrial RSL [3]	Units								
Hexachloroethane	67-72-1	1,800	8,000	µg/kg	280 U	300 U	300 U	270 U	230 U	290 U	280 UJ	
Isophorone	78-59-1	570,000	2,400,000	µg/kg	280 U	300 U	300 U	270 U	230 U	290 U	280 UJ	
Nitrobenzene	98-95-3	5,100	22,000	µg/kg	280 U	300 U	300 U	270 U	230 U	290 U	280 UJ	
N-Nitrosodi-n-propylamine	621-64-7	78	330	µg/kg	280 U	300 U	300 U	270 U	230 U	290 U	280 UJ	
N-Nitrosodiphenylamine	86-30-6	110,000	470,000	µg/kg	280 U	300 U	300 U	270 U	230 U	290 U	280 UJ	
Pentachlorophenol	87-86-5	1,000	4,000	µg/kg	700 U	760 U	740 U	670 U	570 UJ	720 U	690 UJ	
Phenol	108-95-2	1,900,000	25,000,000	µg/kg	280 U	300 U	300 U	270 U	230 UJ	290 U	280 UJ	
2-Methylnaphthalene	91-57-6	24,000	300,000	µg/kg	**4.50 J**	**4.40 J**	12.0 U	11.0 U	9.30 U	**17.0 J**	11.0 U	
Acenaphthene	83-32-9	360,000	4,500,000	µg/kg	11.0 U	12.0 U	12.0 U	11.0 U	9.30 U	**67**	11.0 U	
Acenaphthylene	208-96-8	--	--	µg/kg	11.0 U	12.0 U	12.0 U	11.0 U	9.30 U	**43**	11.0 U	
Anthracene	120-12-7	1,800,000	23,000,000	µg/kg	**24**	12.0 U	**2.20 J**	11.0 U	**19**	**180**	11.0 U	
Benzo(a)anthracene	56-55-3	1,100	21,000	µg/kg	**230**	**28**	**23.0 J**	11.0 U	**38**	**780**	**15.0 J**	
Benzo(a)pyrene	50-32-8	110	2,100	µg/kg	**260**	**30**	**24**	**4.80 J**	9.30 U	**880**	**15.0 J**	
Benzo(b)fluoranthene	205-99-2	1,100	21,000	µg/kg	**400**	**52**	**73**	11.0 U	9.30 U	**1200 J**	**23.0 J**	
Benzo(g,h,i)perylene	191-24-2	--	--	µg/kg	**260**	**28**	**30**	**4.60 J**	9.30 U	**430**	**9.80 J**	
Benzo(k)fluoranthene	207-08-9	11,000	210,000	µg/kg	**150**	**18.0 J**	**26**	11.0 U	9.30 U	**380**	**9.90 J**	
Chrysene	218-01-9	110,000	2,100,000	µg/kg	**290**	**62**	**24**	**4.90 J**	**28**	**820**	**19.0 J**	
Dibenz(a,h)anthracene	53-70-3	110	2100	µg/kg	**52**	**6.10 J**	**11.0 J**	**3.70 J**	9.30 U	**160**	**2.70 J**	
Fluoranthene	206-44-0	240,000	3,000,000	µg/kg	**340**	**35**	**53**	**4.10 J**	9.30 U	**1500**	**17.0 J**	
Fluorene	86-73-7	240,000	3,000,000	µg/kg	**11.0 J**	12.0 U	12.0 U	11.0 U	**17.0 J**	**87**	11.0 U	
Indeno(1,2,3-cd)pyrene	193-39-5	1,100	21,000	µg/kg	**400**	**42**	**28**	**4.20 J**	9.30 U	**400**	**7.80 J**	
Naphthalene	91-20-3	2,000	8,600	µg/kg	11.0 U	12.0 U	12.0 U	11.0 U	9.30 U	**26**	11.0 U	
Phenanthrene	85-01-8	--	--	µg/kg	**170**	**26**	**17.0 J**	11.0 U	**110**	**850**	**4.80 J**	
Pyrene	129-00-0	180,000	2,300,000	µg/kg	**460**	**56**	**39**	**3.70 J**	9.30 U	**1500**	**18.0 J**	

Notes:

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs), "B" to designate first subsurface interval (generally 1 to 3 ft bgs), and "C" to designate second subsurface interval (various depths).

2. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

3. Screening levels are the USEPA RSLs for residential or industrial soil. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

4. Screening level is for m-cresol.

Detected concentrations are bolded.

Detected concentrations that exceed residential RSLs are bolded and shaded yellow.

Detected concentrations that exceed industrial RSLs are bolded and shaded orange.

Acronymns and Abbreviations:

-- = not available or not analyzed.

CASRN = Chemical Abstracts Service Registry Number.

ft = feet.

ft bgs = feet below ground surface.

LOD = limit of detection.

RSL = Regional Screening Level.

ng/g = nanograms per gram.

µg/kg = micrograms per kilogram.

Qualifier Definitions:

U = The analyte was not detected and was reported as less than the LOD.

J = The reported result was an estimated value.

UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.

R = The data validator flagged the data with “X” qualifiers due to significant QC deficiencies in the laboratory analysis of the samples. The project team performed data usability assessment and recommended these data to be rejected/ are not usable (“R” qualifiers).

Reference: USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-2b
Soil Analytical Results - SVOCs
Former Nike BU 51/52 Launch Area Remedial Investiagtion
Hamburg, New York

				Location ID	NHFLA-MW7OB			NHFLA-MW8			NHFLA-MW9OB	
				Sample ID [1]	NHFLA-MW7OB-A-AUG2020	NHFLA-MW7OB-B-AUG2020	NHFLA-MW7OB-C-AUG2020	NHFLA-MW8-A-SEP2020	NHFLA-MW8-B-SEP2020	NHFLA-DUP5-SEP2020 (FD)	NHFLA-MW9OB-A-AUG2020	NHFLA-MW9OB-B-AUG2020
				Sample Type [2]	N	N	N	N	N	FD	N	N
				Sample Date	2020-08-20	2020-08-20	2020-08-20	2020-09-01	2020-09-01	2020-09-01	2020-08-20	2020-08-20
				Start Depth (ft bgs)	0	1.2	3	0	1	1	0	1.4
				End Depth (ft bgs)	0.5	3	5	0.3	3	3	0.4	3
Constituent	CASRN	Residential RSL [3]	Industrial RSL [3]	Units								
Semi-Volatile Organic Compounds (SVOCs)												
1,1-Dimethylhydrazine	57-14-7	5.7	24	ng/g	0.0990 U	0.100 U	0.0990 U	0.0990 UJ	0.100 U	0.100 U	0.100 U	0.100 U
Hydrazine	302-01-2	32	140	ng/g	0.0500 U	0.0500 U	0.0500 U	R	0.0500 U	0.0500 U	0.0500 U	0.0510 U
Methyl hydrazine	60-34-4	100	440	ng/g	0.0990 U	0.100 U	0.0990 U	R	0.100 U	0.100 U	0.100 U	0.100 U
1,2,4,5-Tetrachlorobenzene	95-94-3	2,300	35,000	µg/kg	270 U	280 U	270 U	240 U	280 U	290 U	280 U	290 U
1,1-Biphenyl	92-52-4	4,700	20,000	µg/kg	270 U	280 U	270 U	240 U	280 U	290 U	280 U	290 U
1,4-Dioxane	123-91-1	5,300	24,000	µg/kg	270 U	280 U	270 U	240 U	280 U	290 UJ	280 U	290 U
2,2'-Oxybis(1-chloropropane)	108-60-1	310,000	4,700,000	µg/kg	270 U	280 U	270 U	240 U	280 U	290 U	280 U	290 U
2,4,5-Trichlorophenol	95-95-4	630,000	8,200,000	µg/kg	660 UJ	690 U	670 U	600 U	690 U	710 U	690 U	710 U
2,4,6-Trichlorophenol	88-06-2	6,300	82,000	µg/kg	270 UJ	280 U	270 U	240 U	280 U	290 U	280 U	290 U
2,4-Dichlorophenol	120-83-2	19,000	250,000	µg/kg	270 UJ	280 U	270 U	240 U	280 U	290 U	280 U	290 U
2,4-Dimethylphenol	105-67-9	130,000	1,600,000	µg/kg	270 UJ	280 U	270 U	240 U	280 U	290 U	280 U	290 U
2,4-Dinitrophenol	51-28-5	13,000	160,000	µg/kg	660 UJ	690 U	670 U	600 U	690 U	710 U	690 U	710 U
2,4-Dinitrotoluene	121-14-2	1,700	7,400	µg/kg	270 U	280 U	270 U	240 U	280 U	290 U	280 U	290 U
2,6-Dinitrotoluene	606-20-2	360	1,500	µg/kg	270 U	280 U	270 U	240 U	280 U	290 U	280 U	290 U
2-Chloronaphthalene	91-58-7	480,000	6,000,000	µg/kg	270 U	280 U	270 U	240 U	280 U	290 U	280 U	290 U
2-Chlorophenol	95-57-8	39,000	580,000	µg/kg	270 UJ	280 U	270 U	240 U	280 U	290 U	280 U	290 U
2-Methylphenol	95-48-7	320,000	4,100,000	µg/kg	270 UJ	280 U	270 U	240 U	280 U	290 U	280 U	290 U
2-Nitroaniline	88-74-4	63,000	800,000	µg/kg	660 UJ	690 U	670 U	600 U	690 U	710 U	690 U	710 U
2-Nitrophenol	88-75-5	--	--	µg/kg	270 UJ	280 U	270 U	240 U	280 U	290 U	280 U	290 U
3,3'-Dichlorobenzidine	91-94-1	1,200	5,100	µg/kg	270 U	280 U	270 U	240 U	280 U	290 U	280 U	290 U
3-Nitroaniline	99-09-2	--	--	µg/kg	660 U	690 U	670 U	600 U	690 U	710 U	690 U	710 U
4,6-Dinitro-2-methylphenol	534-52-1	510	6,600	µg/kg	660 UJ	690 U	670 U	600 U	690 U	710 U	690 U	710 U
4-Bromophenyl phenyl ether	101-55-3	--	--	µg/kg	270 UJ	280 U	270 U	240 U	280 U	290 U	280 U	290 U
4-Chloro-3-methylphenol	59-50-7	630,000	8,200,000	µg/kg	270 UJ	280 U	270 U	240 U	280 U	290 U	280 U	290 U
4-Chloroaniline	106-47-8	2,700	11,000	µg/kg	270 U	280 U	270 U	240 U	280 U	290 U	280 U	290 U
4-Chlorophenyl phenyl ether	7005-72-3	--	--	µg/kg	270 U	280 U	270 U	240 U	280 U	290 U	280 U	290 U
4-Nitroaniline	100-01-6	25,000	110,000	µg/kg	660 U	690 U	670 U	600 U	690 U	710 U	690 U	710 U
4-Nitrophenol	100-02-7	--	--	µg/kg	660 UJ	690 U	670 U	600 U	690 U	710 U	690 U	710 U
Acetophenone	98-86-2	780,000	12,000,000	µg/kg	270 U	280 U	270 U	240 U	280 U	290 U	280 U	290 U
Atrazine	1912-24-9	2,400	10,000	µg/kg	270 U	280 U	270 U	240 U	280 U	290 U	**320 J**	290 U
Benzaldehyde	100-52-7	170,000	820,000	µg/kg	270 U	280 U	270 U	240 UJ	280 UJ	290 UJ	280 U	290 U
Benzyl butyl phthalate	85-68-7	290,000	1,200,000	µg/kg	270 U	280 U	270 U	240 U	280 U	290 U	280 U	290 U
Bis(2-chloroethoxy)methane	111-91-1	19,000	250,000	µg/kg	270 U	280 U	270 U	240 U	280 U	290 U	280 U	290 U
Bis(2-chloroethyl)ether	111-44-4	230	1,000	µg/kg	270 U	280 U	270 U	240 U	280 U	290 U	280 U	290 U
Bis(2-ethylhexyl)phthalate	117-81-7	39,000	160,000	µg/kg	510 U	520 U	270 U	**3000**	1400 U	2000 U	370 U	290 U
Caprolactam	105-60-2	3,100,000	40,000,000	µg/kg	270 UJ	280 UJ	270 UJ	240 UJ	280 UJ	290 UJ	280 UJ	290 UJ
Carbazole	86-74-8	--	--	µg/kg	270 U	280 U	270 U	240 U	280 U	290 U	280 U	290 U
Cresols, m- & p- [4]	108-39-4; 106-44-5	320,000	4,100,000	µg/kg	270 UJ	280 U	270 U	240 U	280 U	290 U	280 U	290 U
Dibenzofuran	132-64-9	7,800	120,000	µg/kg	270 U	280 U	270 U	240 U	280 U	290 U	280 U	290 U
Diethyl phthalate	84-66-2	5,100,000	66,000,000	µg/kg	270 U	280 U	270 U	240 U	280 U	290 U	280 U	290 U
Dimethyl phthalate	131-11-3	--	--	µg/kg	270 U	280 U	270 U	240 U	280 U	290 U	280 U	290 U
Di-n-butyl phthalate	84-74-2	630,000	8,200,000	µg/kg	270 U	280 U	270 U	240 U	280 U	290 U	280 U	290 U
di-n-Octyl phthalate	117-84-0	63,000	820,000	µg/kg	270 U	280 U	270 U	240 U	280 U	290 U	280 U	290 U
Hexachlorobenzene	118-74-1	210	960	µg/kg	270 U	280 U	270 U	240 U	280 U	290 U	280 U	290 U
Hexachlorobutadiene	87-68-3	1,200	5,300	µg/kg	270 U	280 U	270 U	240 U	280 U	290 U	280 U	290 U
Hexachlorocyclopentadiene	77-47-4	180	750	µg/kg	270 U	280 U	270 U	240 U	280 U	290 U	280 U	290 U

Table 4-2b
Soil Analytical Results - SVOCs
Former Nike BU 51/52 Launch Area Remedial Investiagtion
Hamburg, New York

				Location ID	NHFLA-MW7OB			NHFLA-MW8			NHFLA-MW9OB	
				Sample ID [1]	NHFLA-MW7OB-A-AUG2020	NHFLA-MW7OB-B-AUG2020	NHFLA-MW7OB-C-AUG2020	NHFLA-MW8-A-SEP2020	NHFLA-MW8-B-SEP2020	NHFLA-DUP5-SEP2020 (FD)	NHFLA-MW9OB-A-AUG2020	NHFLA-MW9OB-B-AUG2020
				Sample Type [2]	N	N	N	N	N	FD	N	N
				Sample Date	2020-08-20	2020-08-20	2020-08-20	2020-09-01	2020-09-01	2020-09-01	2020-08-20	2020-08-20
				Start Depth (ft bgs)	0	1.2	3	0	1	1	0	1.4
				End Depth (ft bgs)	0.5	3	5	0.3	3	3	0.4	3
Constituent	CASRN	Residential RSL [3]	Industrial RSL [3]	Units								
Hexachloroethane	67-72-1	1,800	8,000	µg/kg	270 U	280 U	270 U	240 U	280 U	290 U	280 U	290 U
Isophorone	78-59-1	570,000	2,400,000	µg/kg	270 U	280 U	270 U	240 U	280 U	290 U	280 U	290 U
Nitrobenzene	98-95-3	5,100	22,000	µg/kg	270 U	280 U	270 U	240 U	280 U	290 U	280 U	290 U
N-Nitrosodi-n-propylamine	621-64-7	78	330	µg/kg	270 U	280 U	270 U	240 U	280 U	290 U	280 U	290 U
N-Nitrosodiphenylamine	86-30-6	110,000	470,000	µg/kg	270 U	280 U	270 U	240 U	280 U	290 U	280 U	290 U
Pentachlorophenol	87-86-5	1,000	4,000	µg/kg	660 UJ	690 U	670 U	600 U	690 U	710 U	690 U	710 U
Phenol	108-95-2	1,900,000	25,000,000	µg/kg	270 UJ	280 U	270 U	240 U	280 U	290 U	280 U	290 U
2-Methylnaphthalene	91-57-6	24,000	300,000	µg/kg	**4.00 J**	11.0 U	11.0 U	**3.70 J**	**12.0 J**	12.0 U	11.0 U	12.0 U
Acenaphthene	83-32-9	360,000	4,500,000	µg/kg	**14.0 J**	11.0 U	11.0 U	9.80 U	**7.40 J**	12.0 U	11.0 U	**11.0 J**
Acenaphthylene	208-96-8	--	--	µg/kg	**15.0 J**	11.0 U	11.0 U	9.80 U	11.0 U	12.0 U	11.0 U	12.0 U
Anthracene	120-12-7	1,800,000	23,000,000	µg/kg	**77**	**6.60 J**	**9.30 J**	**22**	**7.50 J**	12.0 U	**23**	**29**
Benzo(a)anthracene	56-55-3	1,100	21,000	µg/kg	**590**	**3.80 J**	**4.80 J**	**280**	**8.20 J**	**5.90 J**	**180**	**69**
Benzo(a)pyrene	50-32-8	110	2,100	µg/kg	**610**	**3.80 J**	**5.60 J**	**450**	**7.20 J**	**6.30 J**	**200**	**56**
Benzo(b)fluoranthene	205-99-2	1,100	21,000	µg/kg	**920**	**6.00 J**	**12.0 J**	**450**	**14.0 J**	**10.0 J**	**290**	**81**
Benzo(g,h,i)perylene	191-24-2	--	--	µg/kg	**390**	11.0 U	**12.0 J**	**440**	11.0 U	**6.10 J**	**170**	**42**
Benzo(k)fluoranthene	207-08-9	11,000	210,000	µg/kg	**330**	11.0 U	**3.50 J**	**300**	**6.80 J**	**5.30 J**	**100**	**31**
Chrysene	218-01-9	110,000	2,100,000	µg/kg	**510**	**20.0 J**	**34**	**310**	**14.0 J**	**12.0 J**	**170**	**63**
Dibenz(a,h)anthracene	53-70-3	110	2100	µg/kg	**100**	11.0 U	11.0 U	**64**	11.0 U	12.0 U	**55**	**12.0 J**
Fluoranthene	206-44-0	240,000	3,000,000	µg/kg	**910**	**5.30 J**	**9.70 J**	**280**	**13.0 J**	**10.0 J**	**340**	**110**
Fluorene	86-73-7	240,000	3,000,000	µg/kg	**34**	11.0 U	11.0 U	**3.20 J**	**15.0 J**	**7.20 J**	**7.60 J**	**11.0 J**
Indeno(1,2,3-cd)pyrene	193-39-5	1,100	21,000	µg/kg	**360**	11.0 U	**4.20 J**	**430**	11.0 U	**8.50 J**	**150**	**30**
Naphthalene	91-20-3	2,000	8,600	µg/kg	11.0 U	11.0 U	11.0 U	9.80 U	11.0 U	12.0 U	11.0 U	12.0 U
Phenanthrene	85-01-8	--	--	µg/kg	**520**	**25**	**28**	**97**	**45**	**27**	**140**	**110**
Pyrene	129-00-0	180,000	2,300,000	µg/kg	**1200**	**10.0 J**	**21.0 J**	**430**	**23**	**17.0 J**	**400**	**150**

Notes:

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs), "B" to designate first subsurface interval (generally 1 to 3 ft bgs), and "C" to designate second subsurface interval (various depths).

2. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

3. Screening levels are the USEPA RSLs for residential or industrial soil. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

4. Screening level is for m-cresol.

Detected concentrations are bolded.

Detected concentrations that exceed residential RSLs are bolded and shaded yellow.

Detected concentrations that exceed industrial RSLs are bolded and shaded orange.

Acronymns and Abbreviations:

-- = not available or not analyzed.

CASRN = Chemical Abstracts Service Registry Number.

ft = feet.

ft bgs = feet below ground surface.

LOD = limit of detection.

RSL = Regional Screening Level.

ng/g = nanograms per gram.

µg/kg = micrograms per kilogram.

Qualifier Definitions:

U = The analyte was not detected and was reported as less than the LOD.

J = The reported result was an estimated value.

UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.

R = The data validator flagged the data with “X” qualifiers due to significant QC deficiencies in the laboratory analysis of the samples. The project team performed data usability assessment and recommended these data to be rejected/ are not usable (“R” qualifiers).

Reference: USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-2b
Soil Analytical Results - SVOCs
Former Nike BU 51/52 Launch Area Remedial Investiagtion
Hamburg, New York

					Location ID	NHFLA-MW10			NHFLA-MW11		NHFLA-MW12	NHFLA-MW13		
					Sample ID [1]	NHFLA-MW10-A-AUG2020	NHFLA-MW10-B-AUG2020	NHFLA-MW10-C-AUG2020	NHFLA-MW11-B-SEP2020	NHFLA-MW11-C-SEP2020	NHFLA-MW12-B-SEP2020	NHFLA-MW13-A-AUG2020	NHFLA-MW13-B-AUG2020	NHFLA-MW13-C-AUG2020
					Sample Type [2]	N	N	N	N	N	N	N	N	N
					Sample Date	2020-08-25	2020-08-25	2020-08-25	2020-09-03	2020-09-03	2020-09-03	2020-08-27	2020-08-27	2020-08-27
					Start Depth (ft bgs)	0	1	3	1	5	2	0	1	3.5
					End Depth (ft bgs)	1	3	4	2.1	6	2.1	1	3	5.5
Constituent	CASRN	Residential RSL [3]	Industrial RSL [3]	Units										
Semi-Volatile Organic Compounds (SVOCs)														
1,1-Dimethylhydrazine	57-14-7	5.7	24	ng/g	0.100 UJ	0.100 UJ	0.0990 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 U	0.100 U	0.100 U	
Hydrazine	302-01-2	32	140	ng/g	0.0500 UJ	0.0500 UJ	0.0500 UJ	R	0.0500 UJ	0.0500 UJ	0.0500 U	0.0500 U	0.0500 U	
Methyl hydrazine	60-34-4	100	440	ng/g	0.100 UJ	0.100 UJ	0.0990 UJ	0.100 UJ	0.100 UJ	0.100 UJ	0.100 U	0.100 U	0.100 U	
1,2,4,5-Tetrachlorobenzene	95-94-3	2,300	35,000	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U	
1,1-Biphenyl	92-52-4	4,700	20,000	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U	
1,4-Dioxane	123-91-1	5,300	24,000	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U	
2,2'-Oxybis(1-chloropropane)	108-60-1	310,000	4,700,000	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U	
2,4,5-Trichlorophenol	95-95-4	630,000	8,200,000	µg/kg	570 U	630 U	620 U	710 U	740 U	670 U	660 U	710 U	710 U	
2,4,6-Trichlorophenol	88-06-2	6,300	82,000	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U	
2,4-Dichlorophenol	120-83-2	19,000	250,000	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U	
2,4-Dimethylphenol	105-67-9	130,000	1,600,000	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U	
2,4-Dinitrophenol	51-28-5	13,000	160,000	µg/kg	570 U	630 U	620 U	710 U	740 U	670 U	660 U	710 U	710 U	
2,4-Dinitrotoluene	121-14-2	1,700	7,400	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U	
2,6-Dinitrotoluene	606-20-2	360	1,500	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U	
2-Chloronaphthalene	91-58-7	480,000	6,000,000	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U	
2-Chlorophenol	95-57-8	39,000	580,000	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U	
2-Methylphenol	95-48-7	320,000	4,100,000	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U	
2-Nitroaniline	88-74-4	63,000	800,000	µg/kg	570 U	630 U	620 U	710 U	740 U	670 U	660 U	710 U	710 U	
2-Nitrophenol	88-75-5	--	--	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U	
3,3'-Dichlorobenzidine	91-94-1	1,200	5,100	µg/kg	230 U	250 U	250 U	R	R	R	270 U	280 U	290 U	
3-Nitroaniline	99-09-2	--	--	µg/kg	570 U	630 U	620 U	710 U	740 U	670 U	660 U	710 U	710 U	
4,6-Dinitro-2-methylphenol	534-52-1	510	6,600	µg/kg	570 U	630 U	620 U	710 U	740 U	670 U	660 U	710 U	710 U	
4-Bromophenyl phenyl ether	101-55-3	--	--	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U	
4-Chloro-3-methylphenol	59-50-7	630,000	8,200,000	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U	
4-Chloroaniline	106-47-8	2,700	11,000	µg/kg	230 U	250 U	250 U	290 UJ	300 UJ	270 UJ	270 U	280 U	290 U	
4-Chlorophenyl phenyl ether	7005-72-3	--	--	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U	
4-Nitroaniline	100-01-6	25,000	110,000	µg/kg	570 U	630 U	620 U	R	R	R	660 U	710 U	710 U	
4-Nitrophenol	100-02-7	--	--	µg/kg	570 U	630 U	620 U	710 U	740 U	670 U	660 U	710 U	710 U	
Acetophenone	98-86-2	780,000	12,000,000	µg/kg	230 U	250 U	250 U	290 U	**680**	270 U	270 U	280 U	290 U	
Atrazine	1912-24-9	2,400	10,000	µg/kg	230 U	250 U	250 U	R	R	R	270 U	280 U	290 U	
Benzaldehyde	100-52-7	170,000	820,000	µg/kg	230 U	250 U	250 U	290 U	**4600 J**	270 U	270 U	280 U	290 U	
Benzyl butyl phthalate	85-68-7	290,000	1,200,000	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U	
Bis(2-chloroethoxy)methane	111-91-1	19,000	250,000	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U	
Bis(2-chloroethyl)ether	111-44-4	230	1,000	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U	
Bis(2-ethylhexyl)phthalate	117-81-7	39,000	160,000	µg/kg	**2400**	**2700**	**1200**	9700 U	8700 U	9100 U	**3000 J**	**3700 J**	**4800 J**	
Caprolactam	105-60-2	3,100,000	40,000,000	µg/kg	230 UJ	250 UJ	250 UJ	290 UJ	300 UJ	270 UJ	270 U	280 U	290 U	
Carbazole	86-74-8	--	--	µg/kg	230 U	250 U	250 U	290 UJ	300 UJ	270 UJ	270 U	280 U	290 U	
Cresols, m- & p- [4]	108-39-4; 106-44-5	320,000	4,100,000	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U	
Dibenzofuran	132-64-9	7,800	120,000	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U	
Diethyl phthalate	84-66-2	5,100,000	66,000,000	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U	
Dimethyl phthalate	131-11-3	--	--	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U	
Di-n-butyl phthalate	84-74-2	630,000	8,200,000	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U	
di-n-Octyl phthalate	117-84-0	63,000	820,000	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U	
Hexachlorobenzene	118-74-1	210	960	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U	
Hexachlorobutadiene	87-68-3	1,200	5,300	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U	
Hexachlorocyclopentadiene	77-47-4	180	750	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U	

Table 4-2b
Soil Analytical Results - SVOCs
Former Nike BU 51/52 Launch Area Remedial Investiagtion
Hamburg, New York

Location ID					NHFLA-MW10			NHFLA-MW11		NHFLA-MW12	NHFLA-MW13		
Sample ID [1]					NHFLA-MW10-A-AUG2020	NHFLA-MW10-B-AUG2020	NHFLA-MW10-C-AUG2020	NHFLA-MW11-B-SEP2020	NHFLA-MW11-C-SEP2020	NHFLA-MW12-B-SEP2020	NHFLA-MW13-A-AUG2020	NHFLA-MW13-B-AUG2020	NHFLA-MW13-C-AUG2020
Sample Type [2]					N	N	N	N	N	N	N	N	N
Sample Date					2020-08-25	2020-08-25	2020-08-25	2020-09-03	2020-09-03	2020-09-03	2020-08-27	2020-08-27	2020-08-27
Start Depth (ft bgs)					0	1	3	1	5	2	0	1	3.5
End Depth (ft bgs)					1	3	4	2.1	6	2.1	1	3	5.5
Constituent	CASRN	Residential RSL [3]	Industrial RSL [3]	Units									
Hexachloroethane	67-72-1	1,800	8,000	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U
Isophorone	78-59-1	570,000	2,400,000	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U
Nitrobenzene	98-95-3	5,100	22,000	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U
N-Nitrosodi-n-propylamine	621-64-7	78	330	µg/kg	230 U	250 U	250 U	290 U	300 U	270 U	270 U	280 U	290 U
N-Nitrosodiphenylamine	86-30-6	110,000	470,000	µg/kg	230 U	250 U	250 U	R	R	R	270 U	280 U	290 U
Pentachlorophenol	87-86-5	1,000	4,000	µg/kg	570 U	630 U	620 U	710 U	740 U	670 U	660 U	710 U	710 U
Phenol	108-95-2	1,900,000	25,000,000	µg/kg	230 U	250 U	250 U	290 U	2100 U	270 U	270 U	280 U	290 U
2-Methylnaphthalene	91-57-6	24,000	300,000	µg/kg	9.30 U	10.0 U	10.0 U	12.0 U	12.0 U	**12.0 J**	**8.80 J**	**6.20 J**	12.0 U
Acenaphthene	83-32-9	360,000	4,500,000	µg/kg	**6.60 J**	10.0 U	10.0 U	12.0 U	12.0 U	11.0 U	**17.0 J**	12.0 U	12.0 U
Acenaphthylene	208-96-8	--	--	µg/kg	9.30 U	10.0 U	10.0 U	12.0 U	12.0 U	11.0 U	11.0 U	12.0 U	12.0 U
Anthracene	120-12-7	1,800,000	23,000,000	µg/kg	**48**	**10.0 J**	**5.00 J**	**9.40 J**	12.0 U	**2.30 J**	**58**	**2.30 J**	**3.20 J**
Benzo(a)anthracene	56-55-3	1,100	21,000	µg/kg	**400**	**100**	**39**	**35**	12.0 U	11.0 U	**460**	**8.90 J**	**13.0 J**
Benzo(a)pyrene	50-32-8	110	2,100	µg/kg	**290**	**79**	**32**	**42**	12.0 U	22.0 U	**320**	**10.0 J**	**11.0 J**
Benzo(b)fluoranthene	205-99-2	1,100	21,000	µg/kg	**470**	**170**	**73**	**50**	**14.0 J**	**17.0 J**	**600**	**18.0 J**	**20.0 J**
Benzo(g,h,i)perylene	191-24-2	--	--	µg/kg	**180**	**67**	**28**	33.0 U	24.0 U	22.0 U	**260**	**7.30 J**	**8.50 J**
Benzo(k)fluoranthene	207-08-9	11,000	210,000	µg/kg	**150**	**43**	**20**	26.0 U	12.0 U	11.0 U	**140**	**5.20 J**	**6.50 J**
Chrysene	218-01-9	110,000	2,100,000	µg/kg	**340**	**99**	**40**	**54**	12.0 U	**18.0 J**	**440**	**18.0 J**	**29**
Dibenz(a,h)anthracene	53-70-3	110	2100	µg/kg	**60**	**23**	**12.0 J**	12.0 U	12.0 U	11.0 U	**50**	12.0 U	12.0 U
Fluoranthene	206-44-0	240,000	3,000,000	µg/kg	**520**	**150**	**57**	**130**	12.0 U	**8.10 J**	**630**	**15.0 J**	**22.0 J**
Fluorene	86-73-7	240,000	3,000,000	µg/kg	**26**	**5.80 J**	10.0 U	**3.80 J**	12.0 U	11.0 U	**31**	12.0 U	12.0 U
Indeno(1,2,3-cd)pyrene	193-39-5	1,100	21,000	µg/kg	**180**	**60**	**28**	45.0 U	24.0 U	24.0 U	**470**	**9.80 J**	**12.0 J**
Naphthalene	91-20-3	2,000	8,600	µg/kg	**4.20 J**	10.0 U	10.0 U	12.0 U	12.0 U	11.0 U	11.0 U	12.0 U	12.0 U
Phenanthrene	85-01-8	--	--	µg/kg	**310**	**83**	**36**	**78**	**6.40 J**	**10.0 J**	**360**	**14.0 J**	**16.0 J**
Pyrene	129-00-0	180,000	2,300,000	µg/kg	**860**	**180**	**69**	**110**	12.0 U	**13.0 J**	**890**	**17.0 J**	**24**

Notes:

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs), "B" to designate first subsurface interval (generally 1 to 3 ft bgs), and "C" to designate second subsurface interval (various depths).

2. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

3. Screening levels are the USEPA RSLs for residential or industrial soil. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

4. Screening level is for m-cresol.

Detected concentrations are bolded.

Detected concentrations that exceed residential RSLs are bolded and shaded yellow.

Detected concentrations that exceed industrial RSLs are bolded and shaded orange.

Acronymns and Abbreviations:

-- = not available or not analyzed.

CASRN = Chemical Abstracts Service Registry Number.

ft = feet.

ft bgs = feet below ground surface.

LOD = limit of detection.

RSL = Regional Screening Level.

ng/g = nanograms per gram.

µg/kg = micrograms per kilogram.

Qualifier Definitions:

U = The analyte was not detected and was reported as less than the LOD.

J = The reported result was an estimated value.

UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.

R = The data validator flagged the data with “X” qualifiers due to significant QC deficiencies in the laboratory analysis of the samples. The project team performed data usability assessment and recommended these data to be rejected/ are not usable (“R” qualifiers).

Reference: USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-2b
Soil Analytical Results - SVOCs
Former Nike BU 51/52 Launch Area Remedial Investiagtion
Hamburg, New York

Location ID					NHFLA-MW14		NHFLA-MW15				
Sample ID [1]					NHFLA-MW14-A-SEP2020	NHFLA-MW14-B-SEP2020	NHFLA-MW15-A-AUG2020	NHFLA-DUP1-AUG2020 (FD)	NHFLA-MW15-B-AUG2020	NHFLA-DUP2-AUG2020 (FD)	NHFLA-MW15-C-AUG2020
Sample Type [2]					N	N	N	FD	N	FD	N
Sample Date					2020-09-02	2020-09-02	2020-08-26	2020-08-26	2020-08-26	2020-08-26	2020-08-26
Start Depth (ft bgs)					0	1.3	0	0	1	1	3
End Depth (ft bgs)					1	2.8	1	1	3	3	4.4
Constituent	CASRN	Residential RSL [3]	Industrial RSL [3]	Units							
Semi-Volatile Organic Compounds (SVOCs)											
1,1-Dimethylhydrazine	57-14-7	5.7	24	ng/g	0.100 U	0.100 U	0.100 UJ	0.0990 UJ	0.0990 UJ	0.0980 UJ	0.0980 U
Hydrazine	302-01-2	32	140	ng/g	0.0500 U	0.0500 U	R	R	R	R	0.0490 U
Methyl hydrazine	60-34-4	100	440	ng/g	0.100 U	0.100 U	R	R	R	R	0.0980 U
1,2,4,5-Tetrachlorobenzene	95-94-3	2,300	35,000	µg/kg	270 U	290 U	270 U	280 U	270 U	240 U	320 U
1,1-Biphenyl	92-52-4	4,700	20,000	µg/kg	270 U	290 U	270 U	280 U	270 U	240 U	320 U
1,4-Dioxane	123-91-1	5,300	24,000	µg/kg	270 U	290 U	270 U	280 U	270 U	240 U	320 U
2,2'-Oxybis(1-chloropropane)	108-60-1	310,000	4,700,000	µg/kg	270 U	290 U	270 U	280 U	270 U	240 U	320 U
2,4,5-Trichlorophenol	95-95-4	630,000	8,200,000	µg/kg	670 U	710 UJ	660 U	690 U	680 U	600 U	790 U
2,4,6-Trichlorophenol	88-06-2	6,300	82,000	µg/kg	270 U	290 UJ	270 U	280 U	270 U	240 U	320 U
2,4-Dichlorophenol	120-83-2	19,000	250,000	µg/kg	270 U	290 UJ	270 U	280 U	270 U	240 U	320 U
2,4-Dimethylphenol	105-67-9	130,000	1,600,000	µg/kg	270 U	290 UJ	270 U	280 U	270 U	240 U	320 U
2,4-Dinitrophenol	51-28-5	13,000	160,000	µg/kg	670 U	710 UJ	660 U	690 U	680 U	600 U	790 U
2,4-Dinitrotoluene	121-14-2	1,700	7,400	µg/kg	270 U	290 U	270 U	280 U	270 U	240 U	320 U
2,6-Dinitrotoluene	606-20-2	360	1,500	µg/kg	270 U	290 U	270 U	280 U	270 U	240 U	320 U
2-Chloronaphthalene	91-58-7	480,000	6,000,000	µg/kg	270 U	290 U	270 U	280 U	270 U	240 U	320 U
2-Chlorophenol	95-57-8	39,000	580,000	µg/kg	270 U	290 UJ	270 U	280 U	270 U	240 U	320 U
2-Methylphenol	95-48-7	320,000	4,100,000	µg/kg	270 U	290 UJ	270 U	280 U	270 U	240 U	320 U
2-Nitroaniline	88-74-4	63,000	800,000	µg/kg	670 U	710 U	660 U	690 U	680 U	600 U	790 U
2-Nitrophenol	88-75-5	--	--	µg/kg	270 U	290 UJ	270 U	280 U	270 U	240 U	320 U
3,3'-Dichlorobenzidine	91-94-1	1,200	5,100	µg/kg	270 U	290 U	270 U	280 U	270 U	240 U	320 U
3-Nitroaniline	99-09-2	--	--	µg/kg	670 U	710 U	660 U	690 U	680 U	600 U	790 U
4,6-Dinitro-2-methylphenol	534-52-1	510	6,600	µg/kg	670 U	710 UJ	660 U	690 U	680 U	600 U	790 U
4-Bromophenyl phenyl ether	101-55-3	--	--	µg/kg	270 U	290 U	270 U	280 U	270 U	240 U	320 U
4-Chloro-3-methylphenol	59-50-7	630,000	8,200,000	µg/kg	270 U	290 UJ	270 U	280 U	270 U	240 U	320 U
4-Chloroaniline	106-47-8	2,700	11,000	µg/kg	270 U	290 U	270 UJ	280 UJ	270 U	240 U	320 U
4-Chlorophenyl phenyl ether	7005-72-3	--	--	µg/kg	270 U	290 U	270 U	280 U	270 U	240 U	320 U
4-Nitroaniline	100-01-6	25,000	110,000	µg/kg	670 U	710 U	660 U	690 U	680 U	600 U	790 U
4-Nitrophenol	100-02-7	--	--	µg/kg	670 U	710 UJ	660 U	690 U	680 U	600 U	790 U
Acetophenone	98-86-2	780,000	12,000,000	µg/kg	270 U	290 U	270 U	280 U	270 U	240 U	320 U
Atrazine	1912-24-9	2,400	10,000	µg/kg	270 U	290 U	270 UJ	280 UJ	270 UJ	240 UJ	320 UJ
Benzaldehyde	100-52-7	170,000	820,000	µg/kg	270 U	290 U	270 U	280 U	270 U	240 U	320 U
Benzyl butyl phthalate	85-68-7	290,000	1,200,000	µg/kg	270 U	290 U	270 U	280 U	270 U	240 U	320 U
Bis(2-chloroethoxy)methane	111-91-1	19,000	250,000	µg/kg	270 U	290 U	270 U	280 U	270 U	240 U	320 U
Bis(2-chloroethyl)ether	111-44-4	230	1,000	µg/kg	270 U	290 U	270 U	280 U	270 U	240 U	320 U
Bis(2-ethylhexyl)phthalate	117-81-7	39,000	160,000	µg/kg	3600 U	6200 U	**1200 J**	**1800 J**	**1500 J**	**1300 J**	**980 J**
Caprolactam	105-60-2	3,100,000	40,000,000	µg/kg	270 UJ	290 UJ	270 UJ	280 UJ	270 UJ	240 UJ	320 UJ
Carbazole	86-74-8	--	--	µg/kg	**1400**	290 U	**710**	280 U	**230 J**	240 U	320 U
Cresols, m- & p- [4]	108-39-4; 106-44-5	320,000	4,100,000	µg/kg	270 U	290 UJ	270 U	280 U	270 U	240 U	320 U
Dibenzofuran	132-64-9	7,800	120,000	µg/kg	**170 J**	290 U	**340 J**	280 U	**110 J**	240 U	320 U
Diethyl phthalate	84-66-2	5,100,000	66,000,000	µg/kg	270 U	290 U	270 U	280 U	270 U	240 U	320 U
Dimethyl phthalate	131-11-3	--	--	µg/kg	270 U	290 U	270 U	280 U	270 U	240 U	320 U
Di-n-butyl phthalate	84-74-2	630,000	8,200,000	µg/kg	270 U	290 U	270 U	280 U	270 U	240 U	320 U
di-n-Octyl phthalate	117-84-0	63,000	820,000	µg/kg	270 U	290 U	270 U	280 U	270 U	240 U	320 U
Hexachlorobenzene	118-74-1	210	960	µg/kg	270 U	290 U	270 U	280 U	270 U	240 U	320 U
Hexachlorobutadiene	87-68-3	1,200	5,300	µg/kg	270 U	290 U	270 U	280 U	270 U	240 U	320 U
Hexachlorocyclopentadiene	77-47-4	180	750	µg/kg	270 U	290 U	270 U	280 U	270 U	240 U	320 U

Table 4-2b
Soil Analytical Results - SVOCs
Former Nike BU 51/52 Launch Area Remedial Investiagtion
Hamburg, New York

					Location ID	NHFLA-MW14		NHFLA-MW15				
					Sample ID [1]	NHFLA-MW14-A-SEP2020	NHFLA-MW14-B-SEP2020	NHFLA-MW15-A-AUG2020	NHFLA-DUP1-AUG2020 (FD)	NHFLA-MW15-B-AUG2020	NHFLA-DUP2-AUG2020 (FD)	NHFLA-MW15-C-AUG2020
					Sample Type [2]	N	N	N	FD	N	FD	N
					Sample Date	2020-09-02	2020-09-02	2020-08-26	2020-08-26	2020-08-26	2020-08-26	2020-08-26
					Start Depth (ft bgs)	0	1.3	0	0	1	1	3
					End Depth (ft bgs)	1	2.8	1	1	3	3	4.4
Constituent	CASRN	Residential RSL [3]	Industrial RSL [3]	Units								
Hexachloroethane	67-72-1	1,800	8,000	µg/kg	270 U	290 U	270 U	280 U	270 U	240 U	320 U
Isophorone	78-59-1	570,000	2,400,000	µg/kg	270 U	290 U	270 U	280 U	270 U	240 U	320 U
Nitrobenzene	98-95-3	5,100	22,000	µg/kg	270 U	290 U	270 U	280 U	270 U	240 U	320 U
N-Nitrosodi-n-propylamine	621-64-7	78	330	µg/kg	270 U	290 U	270 U	280 U	270 U	240 U	320 U
N-Nitrosodiphenylamine	86-30-6	110,000	470,000	µg/kg	270 U	290 U	270 U	280 U	270 U	240 U	320 U
Pentachlorophenol	87-86-5	1,000	4,000	µg/kg	670 U	710 UJ	660 U	690 U	680 U	600 U	790 U
Phenol	108-95-2	1,900,000	25,000,000	µg/kg	270 U	290 UJ	270 U	280 U	270 U	240 U	320 U
2-Methylnaphthalene	91-57-6	24,000	300,000	µg/kg	**8.40 J**	12.0 U	**32.0 J**	**51.0 J**	**2.40 J**	9.70 U	13.0 U
Acenaphthene	83-32-9	360,000	4,500,000	µg/kg	**240**	**17.0 J**	**640 J**	**250 J**	**230 J**	**62.0 J**	13.0 U
Acenaphthylene	208-96-8	--	--	µg/kg	**8.20 J**	12.0 U	**17.0 J**	**8.70 J**	**4.30 J**	**2.30 J**	13.0 U
Anthracene	120-12-7	1,800,000	23,000,000	µg/kg	**2900**	**74**	**2200 J**	**330 J**	**510 J**	**160 J**	13.0 U
Benzo(a)anthracene	56-55-3	1,100	21,000	µg/kg	**8500**	**140**	**3700 J**	**1000 J**	**850 J**	**340 J**	13.0 U
Benzo(a)pyrene	50-32-8	110	2,100	µg/kg	**9600**	**160**	**3000 J**	**920 J**	**670 J**	**310 J**	13.0 U
Benzo(b)fluoranthene	205-99-2	1,100	21,000	µg/kg	**13000**	**200**	**3600 J**	**980 J**	**840 J**	**380 J**	13.0 UJ
Benzo(g,h,i)perylene	191-24-2	--	--	µg/kg	**5800**	**180**	**1700 J**	**430 J**	**390 J**	**160 J**	13.0 U
Benzo(k)fluoranthene	207-08-9	11,000	210,000	µg/kg	**5800**	**99**	**1600 J**	**320 J**	**360 J**	**170 J**	13.0 U
Chrysene	218-01-9	110,000	2,100,000	µg/kg	**11000**	**180**	**3700 J**	**1100 J**	**820 J**	**340 J**	**2.90 J**
Dibenz(a,h)anthracene	53-70-3	110	2100	µg/kg	**1400**	**30**	**320 J**	**130 J**	**100 J**	**54.0 J**	13.0 U
Fluoranthene	206-44-0	240,000	3,000,000	µg/kg	**22000**	**240**	**9600 J**	**1700 J**	**2200 J**	**960 J**	**3.40 J**
Fluorene	86-73-7	240,000	3,000,000	µg/kg	**330**	**26**	**700 J**	**200 J**	**230 J**	**58.0 J**	13.0 U
Indeno(1,2,3-cd)pyrene	193-39-5	1,100	21,000	µg/kg	**6000**	**110**	**1500 J**	**430 J**	**350 J**	**140 J**	13.0 U
Naphthalene	91-20-3	2,000	8,600	µg/kg	**18.0 J**	**4.10 J**	**24.0 J**	**180 J**	**27**	**6.30 J**	13.0 U
Phenanthrene	85-01-8	--	--	µg/kg	**8400**	**250**	**7400 J**	**1800 J**	**1900 J**	**640 J**	**2.80 J**
Pyrene	129-00-0	180,000	2,300,000	µg/kg	**18000**	**370**	**8300 J**	**2500 J**	**2000 J**	**960 J**	**3.30 J**

Notes:

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs), "B" to designate first subsurface interval (generally 1 to 3 ft bgs), and "C" to designate second subsurface interval (various depths).

2. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

3. Screening levels are the USEPA RSLs for residential or industrial soil. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

4. Screening level is for m-cresol.

Detected concentrations are bolded.

Detected concentrations that exceed residential RSLs are bolded and shaded yellow.

Detected concentrations that exceed industrial RSLs are bolded and shaded orange.

Acronymns and Abbreviations:

-- = not available or not analyzed.

CASRN = Chemical Abstracts Service Registry Number.

ft = feet.

ft bgs = feet below ground surface.

LOD = limit of detection.

RSL = Regional Screening Level.

ng/g = nanograms per gram.

µg/kg = micrograms per kilogram.

Qualifier Definitions:

U = The analyte was not detected and was reported as less than the LOD.

J = The reported result was an estimated value.

R = The data validator flagged the data with “X” qualifiers due to significant QC deficiencies in the laboratory analysis of the samples. The project team performed data usability assessment and recommended these data to be rejected/ are not usable (“R” qualifiers).

Reference: USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-2b
Soil Analytical Results - SVOCs
Former Nike BU 51/52 Launch Area Remedial Investiagtion
Hamburg, New York

				Location ID	NHFLA-MW16			NHFLA-SL11A		NHFLA-SL11B	NHFLA-SL25	NHFLA-SL26
				Sample ID [1]	NHFLA-MW16-A-AUG2020	NHFLA-MW16-B-AUG2020	NHFLA-MW16-C-AUG2020	NHFLA-SL11A-A-SEP2020	NHFLA-DUP7-SEP2020 (FD)	NHFLA-SL11B-A-SEP2020	NHFLA-SL25-A-SEP2020	NHFLA-SL26-A-SEP2020
				Sample Type [2]	N	N	N	N	FD	N	N	N
				Sample Date	2020-08-21	2020-08-21	2020-08-21	2020-09-11	2020-09-11	2020-09-11	2020-09-11	2020-09-16
				Start Depth (ft bgs)	0.5	1	15	0	0	0	0	0
				End Depth (ft bgs)	1	3	17	1	1	2	1	1
Constituent	CASRN	Residential RSL [3]	Industrial RSL [3]	Units								
Semi-Volatile Organic Compounds (SVOCs)												
1,1-Dimethylhydrazine	57-14-7	5.7	24	ng/g	0.0990 U	0.0990 U	0.0990 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Hydrazine	302-01-2	32	140	ng/g	R	0.0500 U	0.0500 U	0.0500 UJ	0.0500 UJ	0.0510 U	0.0500 U	0.0500 U
Methyl hydrazine	60-34-4	100	440	ng/g	0.0990 UJ	0.0990 U	0.0990 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
1,2,4,5-Tetrachlorobenzene	95-94-3	2,300	35,000	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
1,1-Biphenyl	92-52-4	4,700	20,000	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
1,4-Dioxane	123-91-1	5,300	24,000	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
2,2'-Oxybis(1-chloropropane)	108-60-1	310,000	4,700,000	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
2,4,5-Trichlorophenol	95-95-4	630,000	8,200,000	µg/kg	600 U	670 U	770 UJ	610 U	670 U	600 U	590 U	700 U
2,4,6-Trichlorophenol	88-06-2	6,300	82,000	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
2,4-Dichlorophenol	120-83-2	19,000	250,000	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
2,4-Dimethylphenol	105-67-9	130,000	1,600,000	µg/kg	240 U	270 U	310 UJ	240 UJ	270 UJ	240 U	240 U	280 U
2,4-Dinitrophenol	51-28-5	13,000	160,000	µg/kg	600 U	670 U	770 UJ	610 U	670 U	600 U	590 U	700 U
2,4-Dinitrotoluene	121-14-2	1,700	7,400	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
2,6-Dinitrotoluene	606-20-2	360	1,500	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
2-Chloronaphthalene	91-58-7	480,000	6,000,000	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
2-Chlorophenol	95-57-8	39,000	580,000	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
2-Methylphenol	95-48-7	320,000	4,100,000	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
2-Nitroaniline	88-74-4	63,000	800,000	µg/kg	600 U	670 U	770 UJ	610 U	670 U	600 U	590 U	700 U
2-Nitrophenol	88-75-5	--	--	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
3,3'-Dichlorobenzidine	91-94-1	1,200	5,100	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
3-Nitroaniline	99-09-2	--	--	µg/kg	600 U	670 U	770 UJ	610 UJ	670 UJ	600 U	590 U	700 U
4,6-Dinitro-2-methylphenol	534-52-1	510	6,600	µg/kg	600 U	670 U	770 UJ	610 U	670 U	600 U	590 U	700 U
4-Bromophenyl phenyl ether	101-55-3	--	--	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
4-Chloro-3-methylphenol	59-50-7	630,000	8,200,000	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
4-Chloroaniline	106-47-8	2,700	11,000	µg/kg	240 U	270 U	310 UJ	R	R	240 UJ	240 UJ	280 U
4-Chlorophenyl phenyl ether	7005-72-3	--	--	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
4-Nitroaniline	100-01-6	25,000	110,000	µg/kg	600 U	670 U	770 UJ	610 U	670 U	600 U	590 U	700 U
4-Nitrophenol	100-02-7	--	--	µg/kg	600 U	670 U	770 UJ	610 U	670 U	600 U	590 U	700 U
Acetophenone	98-86-2	780,000	12,000,000	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
Atrazine	1912-24-9	2,400	10,000	µg/kg	240 UJ	270 UJ	310 UJ	**120 J**	**180 J**	R	**730 J**	280 U
Benzaldehyde	100-52-7	170,000	820,000	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
Benzyl butyl phthalate	85-68-7	290,000	1,200,000	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
Bis(2-chloroethoxy)methane	111-91-1	19,000	250,000	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
Bis(2-chloroethyl)ether	111-44-4	230	1,000	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
Bis(2-ethylhexyl)phthalate	117-81-7	39,000	160,000	µg/kg	240 U	270 U	310 UJ	**740 J**	**530 J**	**710**	**370 J**	280 U
Caprolactam	105-60-2	3,100,000	40,000,000	µg/kg	240 UJ	270 UJ	310 UJ	240 UJ	270 UJ	240 U	240 U	280 UJ
Carbazole	86-74-8	--	--	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
Cresols, m- & p- [4]	108-39-4; 106-44-5	320,000	4,100,000	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
Dibenzofuran	132-64-9	7,800	120,000	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
Diethyl phthalate	84-66-2	5,100,000	66,000,000	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
Dimethyl phthalate	131-11-3	--	--	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
Di-n-butyl phthalate	84-74-2	630,000	8,200,000	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
di-n-Octyl phthalate	117-84-0	63,000	820,000	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
Hexachlorobenzene	118-74-1	210	960	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
Hexachlorobutadiene	87-68-3	1,200	5,300	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
Hexachlorocyclopentadiene	77-47-4	180	750	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U

Table 4-2b
Soil Analytical Results - SVOCs
Former Nike BU 51/52 Launch Area Remedial Investiagtion
Hamburg, New York

				Location ID	NHFLA-MW16			NHFLA-SL11A		NHFLA-SL11B	NHFLA-SL25	NHFLA-SL26
				Sample ID [1]	NHFLA-MW16-A-AUG2020	NHFLA-MW16-B-AUG2020	NHFLA-MW16-C-AUG2020	NHFLA-SL11A-A-SEP2020	NHFLA-DUP7-SEP2020 (FD)	NHFLA-SL11B-A-SEP2020	NHFLA-SL25-A-SEP2020	NHFLA-SL26-A-SEP2020
				Sample Type [2]	N	N	N	N	FD	N	N	N
				Sample Date	2020-08-21	2020-08-21	2020-08-21	2020-09-11	2020-09-11	2020-09-11	2020-09-11	2020-09-16
				Start Depth (ft bgs)	0.5	1	15	0	0	0	0	0
				End Depth (ft bgs)	1	3	17	1	1	2	1	1
Constituent	CASRN	Residential RSL [3]	Industrial RSL [3]	Units								
Hexachloroethane	67-72-1	1,800	8,000	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
Isophorone	78-59-1	570,000	2,400,000	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
Nitrobenzene	98-95-3	5,100	22,000	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
N-Nitrosodi-n-propylamine	621-64-7	78	330	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
N-Nitrosodiphenylamine	86-30-6	110,000	470,000	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
Pentachlorophenol	87-86-5	1,000	4,000	µg/kg	600 U	670 U	770 UJ	610 U	670 U	600 U	590 U	700 U
Phenol	108-95-2	1,900,000	25,000,000	µg/kg	240 U	270 U	310 UJ	240 U	270 U	240 U	240 U	280 U
2-Methylnaphthalene	91-57-6	24,000	300,000	µg/kg	9.00 U	10.0 U	12.0 U	9.90 U	11.0 U	9.80 U	**6.80 J**	**4.40 J**
Acenaphthene	83-32-9	360,000	4,500,000	µg/kg	**19**	**20.0 J**	12.0 U	9.90 U	11.0 U	9.80 U	**8.50 J**	11.0 U
Acenaphthylene	208-96-8	--	--	µg/kg	**2.90 J**	**30**	12.0 U	9.90 U	11.0 U	9.80 U	**25.0 J**	11.0 U
Anthracene	120-12-7	1,800,000	23,000,000	µg/kg	**48.0 J**	**190 J**	**4.10 J**	**3.60 J**	**2.80 J**	**1.20 J**	**76**	**23**
Benzo(a)anthracene	56-55-3	1,100	21,000	µg/kg	**310**	**520**	**21.0 J**	**30**	**28**	**3.70 J**	**490**	**190**
Benzo(a)pyrene	50-32-8	110	2,100	µg/kg	**240 J**	**330 J**	**14.0 J**	**29**	**32**	**5.40 J**	**570**	**220**
Benzo(b)fluoranthene	205-99-2	1,100	21,000	µg/kg	**410**	**680**	**30**	**50**	**47**	**7.70 J**	**840**	**310**
Benzo(g,h,i)perylene	191-24-2	--	--	µg/kg	**170**	**240**	23.0 U	**24**	**25**	9.80 U	**320**	**190**
Benzo(k)fluoranthene	207-08-9	11,000	210,000	µg/kg	**120**	**160**	**9.00 J**	**14.0 J**	**17.0 J**	**3.20 J**	**290**	**120**
Chrysene	218-01-9	110,000	2,100,000	µg/kg	**300**	**460**	**14.0 J**	**34.0 J**	**37.0 J**	**6.30 J**	**530**	**240 J**
Dibenz(a,h)anthracene	53-70-3	110	2100	µg/kg	**45**	**81**	12.0 U	**5.50 J**	11.0 U	9.80 U	**70**	**56**
Fluoranthene	206-44-0	240,000	3,000,000	µg/kg	**770**	**820**	**31**	**59**	**38**	**4.40 J**	**940**	**330**
Fluorene	86-73-7	240,000	3,000,000	µg/kg	**22**	**81**	12.0 U	9.90 U	11.0 U	9.80 U	**41.0 J**	**8.40 J**
Indeno(1,2,3-cd)pyrene	193-39-5	1,100	21,000	µg/kg	**160**	**230**	23.0 U	**20**	**20.0 J**	9.80 U	**330**	**170**
Naphthalene	91-20-3	2,000	8,600	µg/kg	9.00 U	**8.60 J**	12.0 U	9.90 U	11.0 U	9.80 U	**10.0 J**	11.0 U
Phenanthrene	85-01-8	--	--	µg/kg	**400**	**700**	**24**	**30**	**19.0 J**	**3.40 J**	**610**	**150**
Pyrene	129-00-0	180,000	2,300,000	µg/kg	**720**	**960**	**43**	**54.0 J**	**43.0 J**	**5.70 J**	**960**	**420**

Notes:

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs), "B" to designate first subsurface interval (generally 1 to 3 ft bgs), and "C" to designate second subsurface interval (various depths).

2. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

3. Screening levels are the USEPA RSLs for residential or industrial soil. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

4. Screening level is for m-cresol.

Detected concentrations are bolded.

Detected concentrations that exceed residential RSLs are bolded and shaded yellow.

Detected concentrations that exceed industrial RSLs are bolded and shaded orange.

Acronymns and Abbreviations:

-- = not available or not analyzed.

CASRN = Chemical Abstracts Service Registry Number.

ft = feet.

ft bgs = feet below ground surface.

LOD = limit of detection.

RSL = Regional Screening Level.

ng/g = nanograms per gram.

µg/kg = micrograms per kilogram.

Qualifier Definitions:

U = The analyte was not detected and was reported as less than the LOD.

J = The reported result was an estimated value.

UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.

R = The data validator flagged the data with “X” qualifiers due to significant QC deficiencies in the laboratory analysis of the samples. The project team performed data usability assessment and recommended these data to be rejected/ are not usable (“R” qualifiers).

Reference: USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-2b
Soil Analytical Results - SVOCs
Former Nike BU 51/52 Launch Area Remedial Investiagtion
Hamburg, New York

				Location ID	NHFLA-SL27	NHFLA-SL28	NHFLA-SL29	NHFLA-SL31	
				Sample ID [1]	NHFLA-SL27-A-SEP2020	NHFLA-SL28-A-SEP2020	NHFLA-SL29-A-SEP2020	NHFLA-SL31-A-SEP2020	NHFLA-DUP10-SEP2020 (FD)
				Sample Type [2]	N	N	N	N	FD
				Sample Date	2020-09-16	2020-09-16	2020-09-17	2020-09-16	2020-09-16
				Start Depth (ft bgs)	0	0	0	0	0
				End Depth (ft bgs)	1	1	1	1	1
Constituent	CASRN	Residential RSL [3]	Industrial RSL [3]	Units					
Semi-Volatile Organic Compounds (SVOCs)									
1,1-Dimethylhydrazine	57-14-7	5.7	24	ng/g	0.100 U	0.0990 UJ	0.100 UJ	0.100 U	0.100 U
Hydrazine	302-01-2	32	140	ng/g	0.0500 U	R	R	0.0500 U	0.0500 U
Methyl hydrazine	60-34-4	100	440	ng/g	0.100 U	0.0990 UJ	R	0.100 U	0.100 U
1,2,4,5-Tetrachlorobenzene	95-94-3	2,300	35,000	µg/kg	270 U	290 U	300 U	280 U	270 U
1,1-Biphenyl	92-52-4	4,700	20,000	µg/kg	270 U	290 U	300 U	280 U	270 U
1,4-Dioxane	123-91-1	5,300	24,000	µg/kg	270 U	290 U	300 U	280 U	270 U
2,2'-Oxybis(1-chloropropane)	108-60-1	310,000	4,700,000	µg/kg	270 U	290 U	300 U	280 U	270 U
2,4,5-Trichlorophenol	95-95-4	630,000	8,200,000	µg/kg	680 U	710 U	740 U	700 U	680 U
2,4,6-Trichlorophenol	88-06-2	6,300	82,000	µg/kg	270 U	290 U	300 U	280 U	270 U
2,4-Dichlorophenol	120-83-2	19,000	250,000	µg/kg	270 U	290 U	300 U	280 U	270 U
2,4-Dimethylphenol	105-67-9	130,000	1,600,000	µg/kg	270 U	290 U	300 U	280 U	270 U
2,4-Dinitrophenol	51-28-5	13,000	160,000	µg/kg	680 U	710 U	740 U	700 U	680 U
2,4-Dinitrotoluene	121-14-2	1,700	7,400	µg/kg	270 U	290 U	300 U	280 U	270 U
2,6-Dinitrotoluene	606-20-2	360	1,500	µg/kg	270 U	290 U	300 U	280 U	270 U
2-Chloronaphthalene	91-58-7	480,000	6,000,000	µg/kg	270 U	290 U	300 U	280 U	270 U
2-Chlorophenol	95-57-8	39,000	580,000	µg/kg	270 U	290 U	300 U	280 U	270 U
2-Methylphenol	95-48-7	320,000	4,100,000	µg/kg	270 U	290 U	300 U	280 U	270 U
2-Nitroaniline	88-74-4	63,000	800,000	µg/kg	680 U	710 U	740 U	700 U	680 U
2-Nitrophenol	88-75-5	--	--	µg/kg	270 U	290 U	300 U	280 U	270 U
3,3'-Dichlorobenzidine	91-94-1	1,200	5,100	µg/kg	270 U	290 U	300 U	280 U	270 U
3-Nitroaniline	99-09-2	--	--	µg/kg	680 U	710 U	740 U	700 U	680 U
4,6-Dinitro-2-methylphenol	534-52-1	510	6,600	µg/kg	680 U	710 U	740 U	700 U	680 U
4-Bromophenyl phenyl ether	101-55-3	--	--	µg/kg	270 U	290 U	300 U	280 U	270 U
4-Chloro-3-methylphenol	59-50-7	630,000	8,200,000	µg/kg	270 U	290 U	300 U	280 U	270 U
4-Chloroaniline	106-47-8	2,700	11,000	µg/kg	270 U	290 U	300 U	280 U	270 U
4-Chlorophenyl phenyl ether	7005-72-3	--	--	µg/kg	270 U	290 U	300 U	280 U	270 U
4-Nitroaniline	100-01-6	25,000	110,000	µg/kg	680 U	710 U	740 U	700 U	680 U
4-Nitrophenol	100-02-7	--	--	µg/kg	680 U	710 U	740 U	700 U	680 U
Acetophenone	98-86-2	780,000	12,000,000	µg/kg	270 U	290 U	300 U	280 U	270 U
Atrazine	1912-24-9	2,400	10,000	µg/kg	270 U	290 U	300 U	280 U	270 U
Benzaldehyde	100-52-7	170,000	820,000	µg/kg	270 U	290 U	300 U	280 U	270 U
Benzyl butyl phthalate	85-68-7	290,000	1,200,000	µg/kg	270 U	290 U	300 U	280 U	270 U
Bis(2-chloroethoxy)methane	111-91-1	19,000	250,000	µg/kg	270 U	290 U	300 U	280 U	270 U
Bis(2-chloroethyl)ether	111-44-4	230	1,000	µg/kg	270 U	290 U	300 U	280 U	270 U
Bis(2-ethylhexyl)phthalate	117-81-7	39,000	160,000	µg/kg	270 U	290 U	300 U	280 U	270 U
Caprolactam	105-60-2	3,100,000	40,000,000	µg/kg	270 UJ	290 UJ	300 U	280 UJ	270 UJ
Carbazole	86-74-8	--	--	µg/kg	270 U	290 U	300 U	280 U	270 U
Cresols, m- & p- [4]	108-39-4; 106-44-5	320,000	4,100,000	µg/kg	270 U	290 U	300 U	280 U	270 U
Dibenzofuran	132-64-9	7,800	120,000	µg/kg	270 U	290 U	300 U	280 U	270 U
Diethyl phthalate	84-66-2	5,100,000	66,000,000	µg/kg	270 U	290 U	300 U	280 U	270 U
Dimethyl phthalate	131-11-3	--	--	µg/kg	270 U	290 U	300 U	280 U	270 U
Di-n-butyl phthalate	84-74-2	630,000	8,200,000	µg/kg	270 U	290 U	300 U	280 U	270 U
di-n-Octyl phthalate	117-84-0	63,000	820,000	µg/kg	270 U	290 U	300 U	280 U	270 U
Hexachlorobenzene	118-74-1	210	960	µg/kg	270 U	290 U	300 U	280 U	270 U
Hexachlorobutadiene	87-68-3	1,200	5,300	µg/kg	270 U	290 U	300 U	280 U	270 U
Hexachlorocyclopentadiene	77-47-4	180	750	µg/kg	270 U	290 U	300 U	280 U	270 U

Table 4-2b
Soil Analytical Results - SVOCs
Former Nike BU 51/52 Launch Area Remedial Investiagtion
Hamburg, New York

				Location ID	NHFLA-SL27	NHFLA-SL28	NHFLA-SL29	NHFLA-SL31	
				Sample ID [1]	NHFLA-SL27-A-SEP2020	NHFLA-SL28-A-SEP2020	NHFLA-SL29-A-SEP2020	NHFLA-SL31-A-SEP2020	NHFLA-DUP10-SEP2020 (FD)
				Sample Type [2]	N	N	N	N	FD
				Sample Date	2020-09-16	2020-09-16	2020-09-17	2020-09-16	2020-09-16
				Start Depth (ft bgs)	0	0	0	0	0
				End Depth (ft bgs)	1	1	1	1	1
Constituent	CASRN	Residential RSL [3]	Industrial RSL [3]	Units					
Hexachloroethane	67-72-1	1,800	8,000	µg/kg	270 U	290 U	300 U	280 U	270 U
Isophorone	78-59-1	570,000	2,400,000	µg/kg	270 U	290 U	300 U	280 U	270 U
Nitrobenzene	98-95-3	5,100	22,000	µg/kg	270 U	290 U	300 U	280 U	270 U
N-Nitrosodi-n-propylamine	621-64-7	78	330	µg/kg	270 U	290 U	300 U	280 U	270 U
N-Nitrosodiphenylamine	86-30-6	110,000	470,000	µg/kg	270 U	290 U	300 U	280 U	270 U
Pentachlorophenol	87-86-5	1,000	4,000	µg/kg	680 U	710 U	740 U	700 U	680 U
Phenol	108-95-2	1,900,000	25,000,000	µg/kg	270 U	290 U	300 U	280 U	270 U
2-Methylnaphthalene	91-57-6	24,000	300,000	µg/kg	**9.70 J**	**3.50 J**	**27.0 J**	**4.70 J**	**5.20 J**
Acenaphthene	83-32-9	360,000	4,500,000	µg/kg	**30**	12.0 U	**34.0 J**	11.0 U	11.0 U
Acenaphthylene	208-96-8	--	--	µg/kg	**13.0 J**	12.0 U	**40.0 J**	11.0 U	11.0 U
Anthracene	120-12-7	1,800,000	23,000,000	µg/kg	**94**	**16.0 J**	**160**	**7.70 J**	**6.60 J**
Benzo(a)anthracene	56-55-3	1,100	21,000	µg/kg	**430**	**170**	**740**	**73**	**53**
Benzo(a)pyrene	50-32-8	110	2,100	µg/kg	**460**	**210**	**680**	**78**	**62**
Benzo(b)fluoranthene	205-99-2	1,100	21,000	µg/kg	**630**	**320**	**1100**	**110**	**88**
Benzo(g,h,i)perylene	191-24-2	--	--	µg/kg	**290**	**190**	**390**	**62**	**54**
Benzo(k)fluoranthene	207-08-9	11,000	210,000	µg/kg	**200**	**120**	**300**	**39**	**34**
Chrysene	218-01-9	110,000	2,100,000	µg/kg	**450 J**	**210 J**	**640**	**110 J**	**74.0 J**
Dibenz(a,h)anthracene	53-70-3	110	2100	µg/kg	**88**	**47**	**110**	**20.0 J**	**14.0 J**
Fluoranthene	206-44-0	240,000	3,000,000	µg/kg	**1000**	**250**	**1600**	**91**	**94**
Fluorene	86-73-7	240,000	3,000,000	µg/kg	**48**	**5.60 J**	**130**	11.0 U	11.0 U
Indeno(1,2,3-cd)pyrene	193-39-5	1,100	21,000	µg/kg	**260**	**140**	**370**	**52**	**46**
Naphthalene	91-20-3	2,000	8,600	µg/kg	**11.0 J**	12.0 U	**36.0 J**	11.0 U	11.0 U
Phenanthrene	85-01-8	--	--	µg/kg	**530**	**110**	**1200**	**45**	**39**
Pyrene	129-00-0	180,000	2,300,000	µg/kg	**1100**	**390**	**1200**	**140**	**110**

Notes:

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs), "B" to designate first subsurface interval (generally 1 to 3 ft bgs), and "C" to designate second subsurface interval (various depths).

2. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

3. Screening levels are the USEPA RSLs for residential or industrial soil. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

4. Screening level is for m-cresol.

Detected concentrations are bolded.

Detected concentrations that exceed residential RSLs are bolded and shaded yellow.

Detected concentrations that exceed industrial RSLs are bolded and shaded orange.

Acronymns and Abbreviations:

-- = not available or not analyzed.

CASRN = Chemical Abstracts Service Registry Number.

ft = feet.

ft bgs = feet below ground surface.

LOD = limit of detection.

RSL = Regional Screening Level.

ng/g = nanograms per gram.

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Qualifier Definitions:

U = The analyte was not detected and was reported as less than the LOD.

J = The reported result was an estimated value.

UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.

R = The data validator flagged the data with “X” qualifiers due to significant QC deficiencies in the laboratory analysis of the samples. The project team performed data usability assessment and recommended these data to be rejected/ are not usable (“R” qualifiers).

Reference: USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-2c
Soil Analytical Results - Metals
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

				Location ID	NHFLA-MW1OB			NHFLA-MW2		NHFLA-MW3				
				Sample ID [1]	NHFLA-MW1OB-A-AUG2020	NHFLA-MW1OB-B-AUG2020	NHFLA-MW1OB-C-AUG2020	NHFLA-MW2-A-AUG2020	NHFLA-MW2-B-AUG2020	NHFLA-MW3-A-AUG2020	NHFLA-DUP3-AUG2020 (FD)	NHFLA-MW3-B-AUG2020	NHFLA-DUP4-AUG2020 (FD)
				Sample Type [2]	N	N	N	N	N	N	FD	N	FD
				Sample Date	2020-08-19	2020-08-19	2020-08-19	2020-08-24	2020-08-24	2020-08-31	2020-08-31	2020-08-31	2020-08-31
				Start Depth (ft bgs)	0	1	5	0	1	0	0	1	1
				End Depth (ft bgs)	1	3	7	1	3	1	1	3	3
Constituent	CASRN	Residential RSL [3]	Industrial RSL [3]	Units									
Metals													
Aluminum	7429-90-5	7,700	110,000	mg/kg	**12700**	**10700**	**10600**	**17600**	**12000**	**7760 J**	**13400 J**	**13000 J**	**13200 J**
Antimony	7440-36-0	3.1	47	mg/kg	0.540 U	0.500 U	0.560 U	1.20 U	1.10 U	**0.530 J**	**0.440 J**	**0.250 J**	**0.210 J**
Arsenic	7440-38-2	0.68	3	mg/kg	**7.2**	**6.65**	**8.04**	**16.1**	**15.8**	**6.11**	**8.17**	**9.20 J**	**10.5 J**
Barium	7440-39-3	1,500	22,000	mg/kg	**62.9**	**85.2**	**77.4**	**86.5**	**49.2**	**49.9 J**	**83.2 J**	**67.4**	**70.3**
Beryllium	7440-41-7	16	230	mg/kg	**0.604 J**	**0.964 J**	**0.699**	**0.745 J**	**0.657 J**	**0.669**	**1.13**	**0.687**	**0.747**
Cadmium	7440-43-9	7.1	98	mg/kg	**0.733**	**0.193 J**	0.560 U	**0.130 J**	0.650 U	**0.177 J**	**0.338 J**	**0.240 J**	**0.259 J**
Calcium	7440-70-2	--	--	mg/kg	**61900**	**67400**	**44700**	**1510**	**275**	**196000 J**	**62600 J**	**56200 J**	**29400 J**
Chromium [4]	7440-47-3	12,000	180,000	mg/kg	**17.8**	**16.4**	**17**	**19.4**	**15.3**	**41.2 J**	**21.7 J**	**16.8 J**	**17.1 J**
Chromium, Hexavalent	18540-29-9	0.3	6.3	mg/kg	**0.8**	**0.170 J**	0.340 U	0.370 U	**0.61**	0.670 U	0.330 U	0.330 UJ	0.340 UJ
Cobalt	7440-48-4	2.3	35	mg/kg	**9.26**	**5.9**	**8.63**	**24.7**	**4.54**	**4.17 J**	**7.14 J**	**8.85**	**9.87**
Copper	7440-50-8	310	4,700	mg/kg	**30.7**	**25.4**	**31.5**	**17.6**	**40.8**	**19.3**	**30.8**	**26.8 J**	**32.9 J**
Iron	7439-89-6	5,500	82,000	mg/kg	**21600**	**17200**	**21400**	**35600**	**35700**	**12200**	**19400**	**21600 J**	**28100 J**
Lead	7439-92-1	400	800	mg/kg	**17.4**	**22.2**	**32.2**	**30.7**	**14.3**	**31.5**	**43.2**	**21.1 J**	**23.0 J**
Magnesium	7439-95-4	--	--	mg/kg	**8280**	**8130**	**6090**	**1880**	**1950**	**6250**	**8040**	**7110**	**7060**
Manganese	7439-96-5	180	2,600	mg/kg	**364**	**584**	**474**	**676**	**73.3**	**622**	**811**	**525**	**482**
Mercury [5]	7439-97-6	2.3	35	mg/kg	**0.042**	**0.043**	**0.0180 J**	**0.0756**	**0.0617**	**0.032**	**0.035**	**0.0450 J**	**0.0518 J**
Nickel	7440-02-0	150	2,200	mg/kg	**29.9**	**18.9**	**28.7**	**24.6**	**23**	**18.5**	**28.1**	**28.9 J**	**38.3 J**
Potassium	7440-09-7	--	--	mg/kg	**2520**	**1360**	**1530**	**2280**	**2630**	**1180 J**	**1980 J**	**1710 J**	**1670 J**
Selenium	7782-49-2	39	580	mg/kg	**0.650 J**	**0.510 J**	**1.00 J**	**2.20 J**	**2.6**	**0.600 J**	**0.930 J**	**0.610 J**	**1.00 J**
Silver	7440-22-4	39	580	mg/kg	**0.894 J**	**0.704 J**	**0.857 J**	**1.51 J**	**1.46 J**	0.390 U	0.440 U	0.350 U	**0.160 J**
Sodium	7440-23-5	--	--	mg/kg	220 U	**210**	**224**	**1100**	**669**	**190**	**224**	**142**	**125**
Thallium	7440-28-0	0.078	1.2	mg/kg	**0.360 J**	1.00 U	0.560 U	**1.90 J**	**1.70 J**	0.490 U	0.550 U	0.430 U	**0.240 J**
Vanadium	7440-62-2	39	580	mg/kg	**23.8**	**18.4**	**22**	**47.2**	**30.8**	**14.7 J**	**25.5 J**	**27.0 J**	**27.9 J**
Zinc	7440-66-6	2,300	35,000	mg/kg	**73.7**	**104**	**162**	**142**	**79.6**	**78.2 J**	**133 J**	**97.2 J**	**108 J**
General Chemistry													
Total Organic Carbon	ARC-TOC	--	--	µg/g	**16000**	**25000**	**25000**	**24000 J**	**21000**	**42000**	**37000**	**23000 J**	**18000 J**
pH	ARC-pH	--	--	pH units	**7.9**	--	--	**6.9**	--	**8.4**	**8.4**	--	--

Notes:

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs), "B" to designate first subsurface interval (generally 1 to 3 ft bgs), and "C" to designate second subsurface interval (various depths).

2. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

3. Screening levels are the USEPA RSLs for residential or industrial soil. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

4. Screening level is for chromium III.

5. Screening level is for mercuric chloride.

Detected concentrations are bolded.

Detected concentrations that exceed residential RSLs are bolded and shaded yellow.

Detected concentrations that exceed industrial RSLs are bolded and shaded orange.

Acronymns and Abbreviations:

-- = not available or not analyzed.
CASRN = Chemical Abstracts Service Registry Number.
ft = feet.
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LOD = limit of detection.
RSL = Regional Screening Level.
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Qualifier Definitions:

U = The analyte was not detected and was reported as less than the LOD.
J = The reported result was an estimated value.
UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.
R = The data validator flagged the data with "X" qualifiers due to significant QC deficiencies in the laboratory analysis of the samples. The project team performed data usability assessment and recommended these data to be rejected/ are not usable ("R" qualifiers).

Reference: USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-2c
Soil Analytical Results - Metals
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Residential RSL [3]	Industrial RSL [3]	Units	NHFLA-MW4OB-A-SEP2020	NHFLA-MW4OB-B-SEP2020	NHFLA-MW5OB-A-AUG2020	NHFLA-MW5OB-B-AUG2020	NHFLA-MW5OB-C-AUG2020	NHFLA-MW6-A-AUG2020	NHFLA-MW6-B-AUG2020	NHFLA-MW7OB-A-AUG2020	NHFLA-MW7OB-B-AUG2020	NHFLA-MW7OB-C-AUG2020
Location ID					NHFLA-MW4OB		NHFLA-MW5OB			NHFLA-MW6		NHFLA-MW7OB		
Sample ID [1]					NHFLA-MW4OB-A-SEP2020	NHFLA-MW4OB-B-SEP2020	NHFLA-MW5OB-A-AUG2020	NHFLA-MW5OB-B-AUG2020	NHFLA-MW5OB-C-AUG2020	NHFLA-MW6-A-AUG2020	NHFLA-MW6-B-AUG2020	NHFLA-MW7OB-A-AUG2020	NHFLA-MW7OB-B-AUG2020	NHFLA-MW7OB-C-AUG2020
Sample Type [2]					N	N	N	N	N	N	N	N	N	N
Sample Date					2020-09-01	2020-09-01	2020-08-18	2020-08-18	2020-08-18	2020-08-26	2020-08-26	2020-08-20	2020-08-20	2020-08-20
Start Depth (ft bgs)					0	1	0	1	15	0	1	0	1.2	3
End Depth (ft bgs)					1	3	1	3	17	1	3	0.5	3	5
Metals														
Aluminum	7429-90-5	7,700	110,000	mg/kg	**10900**	**10100**	**13500**	**18800**	**8080**	**16800**	**16000**	**16500**	**11700**	**11700**
Antimony	7440-36-0	3.1	47	mg/kg	**0.560 J**	**0.140 J**	0.550 U	1.00 U	0.510 U	**0.230 J**	**0.350 J**	0.530 U	0.550 U	0.460 U
Arsenic	7440-38-2	0.68	3	mg/kg	**13.8**	**9.64**	**7.16**	**10.1**	**9.94**	**9.24**	**14**	**6.33**	**8.76**	**9.89**
Barium	7440-39-3	1,500	22,000	mg/kg	**84.2**	**41.8**	**86.5**	**143**	**50.5**	**96.3**	**52.5**	**117**	**68.1**	**64.1**
Beryllium	7440-41-7	16	230	mg/kg	**0.640 J**	**0.488 J**	**0.712 J**	**0.970 J**	**0.472 J**	**1.17**	**0.571**	**2.17**	**0.69**	**0.613**
Cadmium	7440-43-9	7.1	98	mg/kg	**0.421 J**	0.300 U	**0.380 J**	**0.834 J**	**0.110 J**	**0.578 J**	**0.0964 J**	0.530 U	0.330 U	1.40 U
Calcium	7440-70-2	--	--	mg/kg	**50600**	**32100**	**8100**	**6440**	**20600**	**19900**	**1240**	**98300**	**44800**	**43400**
Chromium [4]	7440-47-3	12,000	180,000	mg/kg	**17.4**	**13.5**	**18.1**	**24.4**	**12.5**	**20.9**	**16.1**	**14**	**16.7**	**17**
Chromium, Hexavalent	18540-29-9	0.3	6.3	mg/kg	**0.250 J**	**0.360 J**	1.60 U	**0.260 J**	0.310 U	0.740 U	0.360 U	**0.380 J**	0.330 U	0.330 U
Cobalt	7440-48-4	2.3	35	mg/kg	**4.9**	**2.46**	**7.9**	**12**	**9.46**	**12**	**4**	**5.39**	**11.2**	**11.5**
Copper	7440-50-8	310	4,700	mg/kg	**36.6**	**26.7**	**20**	**26.8**	**34.6**	**26.8**	**21**	**22.6**	**34.6**	**38.1**
Iron	7439-89-6	5,500	82,000	mg/kg	**33700**	**18400**	**23000**	**33300**	**21800**	**27200**	**22400**	**17100**	**25700**	**25500**
Lead	7439-92-1	400	800	mg/kg	**20.3**	**12.7**	**21.6**	**18.2**	**10.9**	**39.7**	**17.1**	**23.2**	**13.6**	**14.6**
Magnesium	7439-95-4	--	--	mg/kg	**4650**	**2360**	**2980**	**5050**	**5170**	**4770**	**1540**	**12300**	**9980**	**8780**
Manganese	7439-96-5	180	2,600	mg/kg	**580**	**142**	**428**	**531**	**194**	**917**	**76.6**	**1610**	**532**	**324**
Mercury [5]	7439-97-6	2.3	35	mg/kg	**0.033**	**0.0527**	**0.377 J**	**0.0652**	**0.032**	**0.0634**	**0.0676**	**0.044**	**0.034**	**0.033**
Nickel	7440-02-0	150	2,200	mg/kg	**18.8**	**16.7**	**24.2**	**52.9**	**45.2**	**28.8**	**15**	**16.9**	**34.4**	**41.9**
Potassium	7440-09-7	--	--	mg/kg	**1580**	**1820**	**1520**	**2320**	**2100**	**2040**	**2190**	**1900**	**2200**	**2550**
Selenium	7782-49-2	39	580	mg/kg	**2.4**	**1.5**	**1.00 J**	**1.70 J**	**1.4**	**1.6**	**2.09**	**1.6**	**1.2**	3.20 U
Silver	7440-22-4	39	580	mg/kg	**0.300 J**	**0.140 J**	**0.920 J**	**1.28 J**	**0.830 J**	**0.0800 J**	0.440 U	**0.748 J**	**0.832 J**	**0.150 J**
Sodium	7440-23-5	--	--	mg/kg	**156 J**	**445**	**66.8 J**	**85.5 J**	**173 J**	**538**	**682**	**472**	**313**	**293**
Thallium	7440-28-0	0.078	1.2	mg/kg	**0.750 J**	**1.71**	1.10 U	1.00 U	**1.40 J**	0.610 U	**2.12**	0.530 U	**0.0960 J**	**0.840 J**
Vanadium	7440-62-2	39	580	mg/kg	**23.4**	**25.6**	**31.9**	**43.1**	**21.9**	**31.3**	**42.4**	**19.6**	**23.4**	**28.3**
Zinc	7440-66-6	2,300	35,000	mg/kg	**86.6**	**78.4**	**142**	**123**	**67.4**	**121**	**73.4**	**631**	**77.4**	**82.9**
General Chemistry														
Total Organic Carbon	ARC-TOC	--	--	µg/g	**34000**	**20000**	**39000**	**8000**	**39000**	**39000**	**21000**	**23000 J**	**18000**	**16000**
pH	ARC-pH	--	--	pH units	**8**	--	**8**	--	--	**8.2**	--	**8.2**	--	--

Notes:

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs), "B" to designate first subsurface interval (generally 1 to 3 ft bgs), and "C" to designate second subsurface interval (various depths).

2. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

3. Screening levels are the USEPA RSLs for residential or industrial soil. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

4. Screening level is for chromium III.

5. Screening level is for mercuric chloride.

Detected concentrations are bolded.

Detected concentrations that exceed residential RSLs are bolded and shaded yellow.

Detected concentrations that exceed industrial RSLs are bolded and shaded orange.

Acronymns and Abbreviations:

-- = not available or not analyzed.
CASRN = Chemical Abstracts Service Registry Number.
ft = feet.
ft bgs = feet below ground surface.
LOD = limit of detection.
RSL = Regional Screening Level.
µg/g = micrograms per gram.
mg/kg = milligrams per kilogram.

Qualifier Definitions:

U = The analyte was not detected and was reported as less than the LOD.
J = The reported result was an estimated value.
UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.
R = The data validator flagged the data with “X” qualifiers due to significant QC deficiencies in the laboratory analysis of the samples. The project team performed data usability assessment and recommended these data to be rejected/ are not usable (“R” qualifiers).

Reference: USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-2c
Soil Analytical Results - Metals
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Location ID					NHFLA-MW8			NHFLA-MW9OB		NHFLA-MW10			NHFLA-MW11	
Sample ID [1]					NHFLA-MW8-A-SEP2020	NHFLA-MW8-B-SEP2020	NHFLA-DUP5-SEP2020 (FD)	NHFLA-MW9OB-A-AUG2020	NHFLA-MW9OB-B-AUG2020	NHFLA-MW10-A-AUG2020	NHFLA-MW10-B-AUG2020	NHFLA-MW10-C-AUG2020	NHFLA-MW11-B-SEP2020	NHFLA-MW11-C-SEP2020
Sample Type [2]					N	N	FD	N	N	N	N	N	N	N
Sample Date					2020-09-01	2020-09-01	2020-09-01	2020-08-20	2020-08-20	2020-08-25	2020-08-25	2020-08-25	2020-09-03	2020-09-03
Start Depth (ft bgs)					0	1	1	0	1.4	0	1	3	1	5
End Depth (ft bgs)					0.3	3	3	0.4	3	1	3	4	2.1	6
Constituent	**CASRN**	**Residential RSL [3]**	**Industrial RSL [3]**	**Units**										
Metals														
Aluminum	7429-90-5	7,700	110,000	mg/kg	**14900**	**16200**	**15500**	**14800**	**10600**	**14600**	**12300**	**10900**	**14400**	**12800**
Antimony	7440-36-0	3.1	47	mg/kg	**0.230 J**	**0.400 J**	**0.410 J**	0.560 U	0.460 U	0.540 UJ	0.420 U	0.490 U	0.970 U	0.580 U
Arsenic	7440-38-2	0.68	3	mg/kg	**3.9**	**10.8**	**11.3**	**9.02**	**7.58**	**9.37**	**7.33**	**11.1**	**9.24**	**11.7**
Barium	7440-39-3	1,500	22,000	mg/kg	**136**	**66.5**	**57.5**	**74**	**50.6**	**75.1 J**	**58.6**	**40.2**	**53.1**	**39.1**
Beryllium	7440-41-7	16	230	mg/kg	**1.84 J**	**0.648 J**	**0.537 J**	**0.793**	**0.476**	**0.92**	**0.621**	**0.408 J**	**0.622**	**0.698**
Cadmium	7440-43-9	7.1	98	mg/kg	**0.764**	**0.415 J**	**0.510 J**	0.560 U	0.280 U	**0.324 J**	**0.184 J**	**0.124 J**	0.580 U	**0.0720 J**
Calcium	7440-70-2	--	--	mg/kg	**140000**	**25600**	**19700**	**9950**	**15700**	**30500 J**	**16600**	**3340**	**43300**	**4560**
Chromium [4]	7440-47-3	12,000	180,000	mg/kg	**13.9**	**19.3**	**18.2**	**22.1**	**12.9**	**19.7 J**	**16.9**	**12.7**	**20.7**	**15**
Chromium, Hexavalent	18540-29-9	0.3	6.3	mg/kg	0.320 U	0.350 U	0.350 U	1.40 U	**0.980 J**	0.320 U	**0.170 J**	0.720 U	0.360 U	**0.510 J**
Cobalt	7440-48-4	2.3	35	mg/kg	**2.57**	**7.68**	**4.9**	**12.1**	**6.31**	**9.18**	**7.16**	**3.28**	**11.3**	**11.3**
Copper	7440-50-8	310	4,700	mg/kg	**18.4**	**26.8**	**24.9**	**31.3**	**46.4**	**26.9**	**22.6**	**23.1**	**29.6**	**33.9**
Iron	7439-89-6	5,500	82,000	mg/kg	**23200**	**26800**	**26800**	**25300**	**20000**	**23500 J**	**19800**	**22200**	**27300**	**26600**
Lead	7439-92-1	400	800	mg/kg	**73.5**	**20.8**	**17.8**	**27.2**	**19.3**	**31.6 J**	**19.3**	**18.3**	**14.4**	**14.8**
Magnesium	7439-95-4	--	--	mg/kg	**14800**	**5940**	**3720**	**4720**	**3060**	**5700**	**4020**	**1650**	**11200**	**3100**
Manganese	7439-96-5	180	2,600	mg/kg	**1420**	**452**	**400**	**475**	**236**	**721 J**	**413**	**96.3**	**508**	**198**
Mercury [5]	7439-97-6	2.3	35	mg/kg	**0.0180 J**	**0.069**	**0.0728**	**0.0661**	**0.0933**	**0.059**	**0.051**	**0.0657**	**0.04**	**0.0310 J**
Nickel	7440-02-0	150	2,200	mg/kg	**11**	**27.8**	**21.8**	**33.1**	**20.6**	**29.1 J**	**29.2**	**23.7**	**34**	**42.4**
Potassium	7440-09-7	--	--	mg/kg	**1030**	**2240**	**2120**	**2650**	**1470**	**2290 J**	**1640**	**1560**	**2360**	**2120**
Selenium	7782-49-2	39	580	mg/kg	**1.2**	**1.20 J**	**1.30 J**	**1.3**	**1.1**	**1.3**	**1.2**	**1.7**	**0.660 J**	**1.60 J**
Silver	7440-22-4	39	580	mg/kg	**0.260 J**	**0.290 J**	**0.270 J**	**0.949 J**	**0.701 J**	**0.874 J**	**0.593 J**	**0.767 J**	**0.160 J**	**0.290 J**
Sodium	7440-23-5	--	--	mg/kg	**543**	**281**	**284**	110 U	93.0 U	**124**	**83.9 J**	**305**	**1290**	**269**
Thallium	7440-28-0	0.078	1.2	mg/kg	0.520 U	**0.980 J**	**1.20 J**	**0.150 J**	**0.480 J**	**0.170 J**	0.420 U	**1.40 J**	0.970 U	**1.08 J**
Vanadium	7440-62-2	39	580	mg/kg	**12.4**	**40.1**	**44.7**	**26.6**	**22.7**	**29.2 J**	**23.3**	**33.9**	**28.6**	**26.6**
Zinc	7440-66-6	2,300	35,000	mg/kg	**514**	**88.1**	**69.3**	**146**	**73.5**	**119 J**	**80.7**	**72.1**	**81**	**118**
General Chemistry														
Total Organic Carbon	ARC-TOC	--	--	µg/g	**55000**	**31000 J**	**16000 J**	**42000**	**47000 J**	**26000**	**12000**	**30000**	**14000**	**35000**
pH	ARC-pH	--	--	pH units	**8.3**	--	--	**7.6**	--	**7.6**	--	--	**9.3**	--

Notes:

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs), "B" to designate first subsurface interval (generally 1 to 3 ft bgs), and "C" to designate second subsurface interval (various depths).

2. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

3. Screening levels are the USEPA RSLs for residential or industrial soil. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

4. Screening level is for chromium III.

5. Screening level is for mercuric chloride.

Detected concentrations are bolded.

Detected concentrations that exceed residential RSLs are bolded and shaded yellow.

Detected concentrations that exceed industrial RSLs are bolded and shaded orange.

Acronymns and Abbreviations:

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CASRN = Chemical Abstracts Service Registry Number.
ft = feet.
ft bgs = feet below ground surface.
LOD = limit of detection.
RSL = Regional Screening Level.
µg/g = micrograms per gram.
mg/kg = milligrams per kilogram.

Qualifier Definitions:

U = The analyte was not detected and was reported as less than the LOD.
J = The reported result was an estimated value.
UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.
R = The data validator flagged the data with “X” qualifiers due to significant QC deficiencies in the laboratory analysis of the samples. The project team performed data usability assessment and recommended these data to be rejected/ are not usable (“R” qualifiers).

Reference: USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-2c
Soil Analytical Results - Metals
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Location ID					NHFLA-MW12	NHFLA-MW13			NHFLA-MW14		NHFLA-MW15			
Sample ID [1]					NHFLA-MW12-B-SEP2020	NHFLA-MW13-A-AUG2020	NHFLA-MW13-B-AUG2020	NHFLA-MW13-C-AUG2020	NHFLA-MW14-A-SEP2020	NHFLA-MW14-B-SEP2020	NHFLA-MW15-A-AUG2020	NHFLA-DUP1-AUG2020 (FD)	NHFLA-MW15-B-AUG2020	NHFLA-DUP2-AUG2020 (FD)
Sample Type [2]					N	N	N	N	N	N	N	FD	N	FD
Sample Date					2020-09-03	2020-08-27	2020-08-27	2020-08-27	2020-09-02	2020-09-02	2020-08-26	2020-08-26	2020-08-26	2020-08-26
Start Depth (ft bgs)					2	0	1	3.5	0	1.3	0	0	1	1
End Depth (ft bgs)					2.1	1	3	5.5	1	2.8	1	1	3	3
Constituent	CASRN	Residential RSL [3]	Industrial RSL [3]	Units										
Metals														
Aluminum	7429-90-5	7,700	110,000	mg/kg	**12400**	**6900**	**10800**	**14300**	**11200**	**15700**	**14100**	**14300**	**12700**	**14100**
Antimony	7440-36-0	3.1	47	mg/kg	0.560 U	2.00 U	**0.370 J**	**0.480 J**	**0.400 J**	**0.500 J**	**1.37 J**	**0.270 J**	**0.270 J**	**0.140 J**
Arsenic	7440-38-2	0.68	3	mg/kg	**9.26**	**8.71**	**10.3**	**14.6**	**8.33**	**9.99**	**10**	**9.98**	**9.87 J**	**9.72 J**
Barium	7440-39-3	1,500	22,000	mg/kg	**97.2**	**42.4**	**50**	**45.7**	**53.9**	**60.8**	**85.3**	**75.3**	**68**	**71.3**
Beryllium	7440-41-7	16	230	mg/kg	**1.26**	**0.507 J**	**0.51**	**0.681 J**	**0.532 J**	**0.792**	**0.991**	**0.904**	**0.757 J**	**0.813**
Cadmium	7440-43-9	7.1	98	mg/kg	**0.0570 J**	**0.200 J**	**0.332 J**	0.510 U	**0.535 J**	**0.518 J**	**0.379 J**	**0.380 J**	**0.215 J**	**0.578**
Calcium	7440-70-2	--	--	mg/kg	**63000**	**98400**	**33200**	**13800**	**94600**	**17000**	**37000**	**31300**	**36400 J**	**31100 J**
Chromium [4]	7440-47-3	12,000	180,000	mg/kg	**13.9**	**14.8**	**15**	**17.1**	**17.2**	**17.3**	**86.6 J**	**20.5 J**	**18.0 J**	**18.1 J**
Chromium, Hexavalent	18540-29-9	0.3	6.3	mg/kg	0.320 U	0.320 U	0.340 U	0.350 U	0.670 U	0.340 U	0.340 UJ	0.340 UJ	0.330 U	0.310 U
Cobalt	7440-48-4	2.3	35	mg/kg	**3.75**	**5.4**	**8.59**	**6.68**	**6.41**	**6.51**	**11.1**	**11.1**	**10.2**	**10.3**
Copper	7440-50-8	310	4,700	mg/kg	**17.7**	**30.3**	**30.1**	**29.8**	**21.5**	**17.9**	**27.0 J**	**26.6 J**	**30.0 J**	**29.5 J**
Iron	7439-89-6	5,500	82,000	mg/kg	**17800**	**17500**	**21800**	**33800**	**17900**	**21700**	**27800 J**	**23000 J**	**24000 J**	**22400 J**
Lead	7439-92-1	400	800	mg/kg	**10.1**	**21.2**	**16.2**	**20.8**	**48.4**	**18.6**	**28.3 J**	**31.2 J**	**21.2 J**	**22.6 J**
Magnesium	7439-95-4	--	--	mg/kg	**8180**	**6660**	**8110**	**4330**	**6770**	**3980**	**6600**	**6200**	**8510**	**6500**
Manganese	7439-96-5	180	2,600	mg/kg	**1170**	**581**	**384**	**247**	**383**	**445**	**2630 J**	**828 J**	**653 J**	**572 J**
Mercury [5]	7439-97-6	2.3	35	mg/kg	**0.042**	**0.028**	**0.045**	**0.077**	**0.046**	**0.051**	**0.05**	**0.049**	**0.039**	**0.04**
Nickel	7440-02-0	150	2,200	mg/kg	**23.2**	**21**	**31.7**	**26.2**	**19.9**	**21.6**	**30.9 J**	**31.3 J**	**35.4**	**36.4**
Potassium	7440-09-7	--	--	mg/kg	**1440**	**1100**	**1600**	**2120**	**2080**	**2040**	**1910 J**	**1880 J**	**1810 J**	**2160 J**
Selenium	7782-49-2	39	580	mg/kg	**0.870 J**	2.80 U	**1.2**	**1.60 J**	**0.850 J**	**1.4**	**1.40 J**	**1.20 J**	**0.760 J**	**1.6**
Silver	7440-22-4	39	580	mg/kg	**0.220 J**	**0.400 J**	0.380 U	**0.465 J**	**0.420 J**	**0.494 J**	**0.405 J**	**0.350 J**	**0.340 J**	0.370 U
Sodium	7440-23-5	--	--	mg/kg	**332**	**663**	**702**	**643**	**363**	**427**	**206**	**143 J**	**182**	**180**
Thallium	7440-28-0	0.078	1.2	mg/kg	**0.640 J**	2.00 U	**0.360 J**	**0.790 J**	**1.03 J**	**1.48 J**	0.920 U	0.800 U	0.850 U	**0.520 J**
Vanadium	7440-62-2	39	580	mg/kg	**16.5**	**18.8**	**24.2**	**32.8**	**27.2**	**33.4**	**42.1**	**31**	**26.1**	**28.7**
Zinc	7440-66-6	2,300	35,000	mg/kg	**39.8**	**198**	**66.2**	**65.1**	**112**	**135**	**128 J**	**132 J**	**101 J**	**110 J**
General Chemistry														
Total Organic Carbon	ARC-TOC	--	--	µg/g	**15000**	**22000**	**15000**	**17000**	**32000**	**21000**	**29000**	**25000**	**14000**	**21000**
pH	ARC-pH	--	--	pH units	--	**9.2**	--	--	**8.4**	--	**8.2**	**8.2**	--	**8.4**

Notes:

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs), "B" to designate first subsurface interval (generally 1 to 3 ft bgs), and "C" to designate second subsurface interval (various depths).

2. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

3. Screening levels are the USEPA RSLs for residential or industrial soil. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

4. Screening level is for chromium III.

5. Screening level is for mercuric chloride.

Detected concentrations are bolded.

Detected concentrations that exceed residential RSLs are bolded and shaded yellow.

Detected concentrations that exceed industrial RSLs are bolded and shaded orange.

Acronymns and Abbreviations:

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CASRN = Chemical Abstracts Service Registry Number.
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J = The reported result was an estimated value.
UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.
R = The data validator flagged the data with “X” qualifiers due to significant QC deficiencies in the laboratory analysis of the samples. The project team performed data usability assessment and recommended these data to be rejected/ are not usable (“R” qualifiers).

Reference: USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-2c
Soil Analytical Results - Metals
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Location ID						NHFLA-MW16			NHFLA-SL11A		NHFLA-SL11B	NHFLA-SL25	NHFLA-SL26	NHFLA-SL27
Sample ID [1]					NHFLA-MW15-C-AUG2020	NHFLA-MW16-A-AUG2020	NHFLA-MW16-B-AUG2020	NHFLA-MW16-C-AUG2020	NHFLA-SL11A-A-SEP2020	NHFLA-DUP7-SEP2020 (FD)	NHFLA-SL11B-A-SEP2020	NHFLA-SL25-A-SEP2020	NHFLA-SL26-A-SEP2020	NHFLA-SL27-A-SEP2020
Sample Type [2]					N	N	N	N	N	FD	N	N	N	N
Sample Date					2020-08-26	2020-08-21	2020-08-21	2020-08-21	2020-09-11	2020-09-11	2020-09-11	2020-09-11	2020-09-16	2020-09-16
Start Depth (ft bgs)					3	0.5	1	15	0	0	0	0	0	0
End Depth (ft bgs)					4.4	1	3	17	1	1	2	1	1	1
Constituent	CASRN	Residential RSL [3]	Industrial RSL [3]	Units										
Metals														
Aluminum	7429-90-5	7,700	110,000	mg/kg	**20300**	**8350**	**11800**	**13200**	**12200**	**12600**	**15700**	**14800**	**12900**	**8630**
Antimony	7440-36-0	3.1	47	mg/kg	**0.480 J**	0.450 U	0.480 U	0.610 U	R	R	**0.220 J**	0.430 U	1.10 U	0.530 U
Arsenic	7440-38-2	0.68	3	mg/kg	**11.3**	**5.93**	**6.78**	**12.7**	**9.16**	**8.31**	**7.51**	**8.51**	**8.4**	**7.51**
Barium	7440-39-3	1,500	22,000	mg/kg	**43.4**	**44.7**	**71.6**	**91.2**	**60.6**	**62.6**	**64.7**	**85.4**	**74.8**	**44.4**
Beryllium	7440-41-7	16	230	mg/kg	**0.509**	**0.442 J**	**0.878**	**0.823**	**0.586 J**	**0.598 J**	**0.685 J**	**1.05**	**1.68**	**0.510 J**
Cadmium	7440-43-9	7.1	98	mg/kg	0.580 U	0.270 U	0.480 U	**1.41**	**0.354 J**	**0.355 J**	**0.177 J**	**0.257 J**	**0.310 J**	**0.86**
Calcium	7440-70-2	--	--	mg/kg	**1690**	**68600**	**87200**	**1730**	**48600**	**45400**	**82700**	**36800**	**65500**	**51900**
Chromium [4]	7440-47-3	12,000	180,000	mg/kg	**17.9**	**11.9**	**15**	**16.8**	**30.3 J**	**17.2 J**	**20.3**	**18.9**	**11.1**	**11.2**
Chromium, Hexavalent	18540-29-9	0.3	6.3	mg/kg	**0.470 J**	**1.20 J**	**0.470 J**	**0.260 J**	0.340 U	**0.250 J**	0.350 U	0.320 U	0.330 U	0.680 U
Cobalt	7440-48-4	2.3	35	mg/kg	**3.25**	**6.13**	**7.1**	**13.4**	**10.6**	**9.65**	**9.95**	**7.49**	**2.95**	**7.04**
Copper	7440-50-8	310	4,700	mg/kg	**24.4**	**27.5**	**20.9**	**37.7**	**108 J**	**31.8 J**	**24.5**	**25.3**	**14.9**	**18.8**
Iron	7439-89-6	5,500	82,000	mg/kg	**36200**	**15300**	**16600**	**29300**	**24500**	**23300**	**26600**	**21100**	**13800**	**15600**
Lead	7439-92-1	400	800	mg/kg	**13.9**	**15**	**36.2**	**16.5**	**23.1 J**	**20.9 J**	**15.2**	**38.4**	**19.4**	**28.9**
Magnesium	7439-95-4	--	--	mg/kg	**1680**	**7690**	**17600**	**3260**	**12100 J**	**9570 J**	**6880**	**6580**	**9000**	**5450**
Manganese	7439-96-5	180	2,600	mg/kg	**36**	**293**	**650**	**248**	**507**	**449**	**340**	**601**	**460**	**330**
Mercury [5]	7439-97-6	2.3	35	mg/kg	**0.13**	**0.039**	**0.0653**	**0.061**	**0.0350 J**	**0.0310 J**	**0.0220 J**	**0.041**	**0.00690 J**	**0.045**
Nickel	7440-02-0	150	2,200	mg/kg	**22.8**	**22.5**	**21.1**	**61.8**	**32.7**	**32.5**	**28.8**	**25.2**	**11.9**	**24**
Potassium	7440-09-7	--	--	mg/kg	**1820**	**1830**	**1640**	**1540**	**2140 J**	**2290 J**	**1650**	**1950**	**1330**	**1290**
Selenium	7782-49-2	39	580	mg/kg	**2.2**	**0.620 J**	**0.840 J**	**1.7**	**63.9 J**	1.30 UJ	1.70 U	**1.3**	**1.60 J**	**1.2**
Silver	7440-22-4	39	580	mg/kg	**0.410 J**	**0.552 J**	**0.488 J**	**1.03 J**	**0.100 J**	0.740 U	0.700 U	**0.328 J**	**0.0960 J**	**0.0840 J**
Sodium	7440-23-5	--	--	mg/kg	**379**	**106**	**250**	**234**	160 U	190 U	**1520**	**649**	**237**	100 U
Thallium	7440-28-0	0.078	1.2	mg/kg	**4.07**	**0.140 J**	0.480 U	**0.990 J**	**0.200 J**	**0.170 J**	0.870 U	0.430 U	**0.520 J**	**0.660 J**
Vanadium	7440-62-2	39	580	mg/kg	**41.4**	**18.4**	**20.9**	**35.4**	**24**	**25.1**	**27.3**	**25.1**	**22.1**	**20**
Zinc	7440-66-6	2,300	35,000	mg/kg	**143**	**68.1**	**117**	**145**	**159**	**146**	**71.1**	**99.6**	**51.3**	**119**
General Chemistry														
Total Organic Carbon	ARC-TOC	--	--	µg/g	**16000**	**35000**	**41000**	**14000**	**23000 J**	**17000 J**	**12000**	**30000**	**42000**	**39000**
pH	ARC-pH	--	--	pH units	--	**7.9**	--	--	**8.5**	**8.4**	**9.5**	**9**	**8.2**	**8.2**

Notes:

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs), "B" to designate first subsurface interval (generally 1 to 3 ft bgs), and "C" to designate second subsurface interval (various depths).

2. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

3. Screening levels are the USEPA RSLs for residential or industrial soil. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

4. Screening level is for chromium III.

5. Screening level is for mercuric chloride.

Detected concentrations are bolded.

Detected concentrations that exceed residential RSLs are bolded and shaded yellow.

Detected concentrations that exceed industrial RSLs are bolded and shaded orange.

Acronymns and Abbreviations:

-- = not available or not analyzed.
CASRN = Chemical Abstracts Service Registry Number.
ft = feet.
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Qualifier Definitions:

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R = The data validator flagged the data with “X” qualifiers due to significant QC deficiencies in the laboratory analysis of the samples. The project team performed data usability assessment and recommended these data to be rejected/ are not usable (“R” qualifiers).

Reference: USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-2c
Soil Analytical Results - Metals
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Residential RSL [3]	Industrial RSL [3]	Units	Location ID	NHFLA-SL28	NHFLA-SL29	NHFLA-SL31	
					Sample ID [1]	NHFLA-SL28-A-SEP2020	NHFLA-SL29-A-SEP2020	NHFLA-SL31-A-SEP2020	NHFLA-DUP10-SEP2020 (FD)
					Sample Type [2]	N	N	N	FD
					Sample Date	2020-09-16	2020-09-17	2020-09-16	2020-09-16
					Start Depth (ft bgs)	0	0	0	0
					End Depth (ft bgs)	1	1	1	1
Metals									
Aluminum	7429-90-5	7,700	110,000	mg/kg		**11400**	**12800**	**12400**	**14300**
Antimony	7440-36-0	3.1	47	mg/kg		1.00 U	R	0.520 U	0.880 U
Arsenic	7440-38-2	0.68	3	mg/kg		**8.01**	**7.97 J**	**8.64**	**7.22**
Barium	7440-39-3	1,500	22,000	mg/kg		**83.4**	**78.7**	**75.8**	**78.9**
Beryllium	7440-41-7	16	230	mg/kg		**1.36**	**0.873**	**0.625**	**1.23**
Cadmium	7440-43-9	7.1	98	mg/kg		**0.445 J**	**0.396 J**	**0.936**	**0.310 J**
Calcium	7440-70-2	--	--	mg/kg		**79200**	**61500**	**38100 J**	**84000 J**
Chromium [4]	7440-47-3	12,000	180,000	mg/kg		**11.8**	**18.7**	**45.1 J**	**14.1 J**
Chromium, Hexavalent	18540-29-9	0.3	6.3	mg/kg		0.350 U	0.350 U	0.340 UJ	**2.00 J**
Cobalt	7440-48-4	2.3	35	mg/kg		**9.03**	**8.41**	**17.1 J**	**6.55 J**
Copper	7440-50-8	310	4,700	mg/kg		**15.6**	**30.1 J**	**25.2 J**	**19.8 J**
Iron	7439-89-6	5,500	82,000	mg/kg		**15800**	**21800**	**22900**	**17500**
Lead	7439-92-1	400	800	mg/kg		**18.3**	**27.5 J**	**36.0 J**	**21.0 J**
Magnesium	7439-95-4	--	--	mg/kg		**7220**	**6180**	**5500**	**6870**
Manganese	7439-96-5	180	2,600	mg/kg		**1070**	**509**	**1160**	**1100**
Mercury [5]	7439-97-6	2.3	35	mg/kg		0.0190 U	**0.196**	**0.039**	0.0180 U
Nickel	7440-02-0	150	2,200	mg/kg		**16.4**	**29.9 J**	**26.4**	**19.2**
Potassium	7440-09-7	--	--	mg/kg		**1280**	**2100 J**	**2060**	**1680**
Selenium	7782-49-2	39	580	mg/kg		**1.30 J**	**1**	**1.89**	**1.20 J**
Silver	7440-22-4	39	580	mg/kg		0.810 U	0.350 U	**0.220 J**	**0.120 J**
Sodium	7440-23-5	--	--	mg/kg		**494**	**126**	**112**	**198**
Thallium	7440-28-0	0.078	1.2	mg/kg		**0.200 J**	0.440 UJ	**0.400 J**	**0.330 J**
Vanadium	7440-62-2	39	580	mg/kg		**21.5**	**26.3**	**36.9 J**	**21.1 J**
Zinc	7440-66-6	2,300	35,000	mg/kg		**77**	**119**	**112**	**80.5**
General Chemistry									
Total Organic Carbon	ARC-TOC	--	--	µg/g		**34000**	**46000**	**28000**	**39000**
pH	ARC-pH	--	--	pH units		**8.4**	**8.1**	**8.2**	**8.2**

Notes:

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs), "B" to designate first subsurface interval (generally 1 to 3 ft bgs), and "C" to designate second subsurface interval (various depths).

2. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

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5. Screening level is for mercuric chloride.

Detected concentrations are bolded.

Detected concentrations that exceed residential RSLs are bolded and shaded yellow.

Detected concentrations that exceed industrial RSLs are bolded and shaded orange.

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Table 4-3a
Reference Locations Soil Analytical Results - PAHs
Former Nike BU 51/52 Launch Area Remedial Investigation
Hamburg, New York

				Location ID	NHFLA-BH36		NHFLA-BH37		NHFLA-BH38		NHFLA-BH39		
				Sample ID [1]	NHFLA-BH36-A-SEP2020	NHFLA-BH36-B-SEP2020	NHFLA-BH37-A-SEP2020	NHFLA-BH37-B-SEP2020	NHFLA-BH38-A-SEP2020	NHFLA-BH38-B-SEP2020	NHFLA-BH39-A-SEP2020	NHFLA-BH39-B-SEP2020	NHFLA-DUP9-SEP2020 (FD)
				Sample Type [2]	N	N	N	N	N	N	N	N	FD
				Sample Date	2020-09-15	2020-09-15	2020-09-16	2020-09-16	2020-09-16	2020-09-16	2020-09-16	2020-09-16	2020-09-16
				Start Depth (ft bgs)	0	1	0	1	0	1	0	1	1
				End Depth (ft bgs)	1	3	1	3	1	3	1	3	3
Constituent	**CASRN**	**Residential RSL [3]**	**Industrial RSL [3]**	**Units**									
Polycyclic Aromatic Hydrocarbons (PAHs)													
2-Methylnaphthalene	91-57-6	24,000	300,000	µg/kg	11.0 U	12.0 U	12.0 U	11.0 U	12.0 U	12.0 U	12.0 U	12.0 U	12.0 U
Acenaphthene	83-32-9	360,000	4,500,000	µg/kg	11.0 U	12.0 U	12.0 U	11.0 U	12.0 U	12.0 U	12.0 U	12.0 U	12.0 U
Acenaphthylene	208-96-8	--	--	µg/kg	11.0 U	12.0 U	12.0 U	11.0 U	12.0 U	12.0 U	12.0 U	12.0 U	12.0 U
Anthracene	120-12-7	1,800,000	23,000,000	µg/kg	11.0 U	12.0 U	12.0 U	11.0 U	12.0 U	12.0 U	**1.60 J**	12.0 U	12.0 U
Benzo(a)anthracene	56-55-3	1,100	21,000	µg/kg	**2.60 J**	**4.20 J**	**6.60 J**	11.0 U	**8.20 J**	**4.50 J**	**8.80 J**	12.0 U	**3.20 J**
Benzo(a)pyrene	50-32-8	110	2,100	µg/kg	11.0 U	**5.20 J**	**7.70 J**	11.0 U	**9.40 J**	12.0 U	**7.00 J**	12.0 U	12.0 U
Benzo(b)fluoranthene	205-99-2	1,100	21,000	µg/kg	**5.30 J**	**9.60 J**	**15.0 J**	11.0 U	**18.0 J**	**7.30 J**	**18.0 J**	12.0 U	**4.50 J**
Benzo(g,h,i)perylene	191-24-2	--	--	µg/kg	**3.10 J**	**4.90 J**	**6.50 J**	11.0 U	**7.40 J**	**3.80 J**	**8.00 J**	12.0 U	**2.80 J**
Benzo(k)fluoranthene	207-08-9	11,000	210,000	µg/kg	11.0 U	12.0 U	**5.60 J**	11.0 U	**6.10 J**	12.0 U	**7.00 J**	12.0 U	12.0 U
Chrysene	218-01-9	110,000	2,100,000	µg/kg	**4.00 J**	**6.00 J**	**11.0 J**	**4.80 J**	**16.0 J**	**9.20 J**	**17.0 J**	**4.10 J**	**6.60 J**
Dibenz(a,h)anthracene	53-70-3	110	2100	µg/kg	11.0 U	12.0 U	12.0 U	11.0 U	12.0 U	12.0 U	12.0 U	12.0 U	12.0 U
Fluoranthene	206-44-0	240,000	3,000,000	µg/kg	**6.00 J**	**11.0 J**	**19.0 J**	11.0 U	**22.0 J**	**10.0 J**	**23.0**	12.0 U	**8.40 J**
Fluorene	86-73-7	240,000	3,000,000	µg/kg	11.0 U	12.0 U	12.0 U	11.0 U	12.0 U	12.0 U	12.0 U	12.0 U	12.0 U
Indeno(1,2,3-cd)pyrene	193-39-5	1,100	21,000	µg/kg	**3.20 J**	**4.70 J**	**5.60 J**	11.0 U	**5.60 J**	**2.50 J**	**6.30 J**	12.0 U	12.0 U
Naphthalene	91-20-3	2,000	8,600	µg/kg	11.0 U	12.0 U	12.0 U	11.0 U	12.0 U	12.0 U	12.0 U	12.0 U	12.0 U
Phenanthrene	85-01-8	--	--	µg/kg	**3.70 J**	**6.10 J**	**9.10 J**	**2.70 J**	**11.0 J**	**8.00 J**	**13.0 J**	12.0 U	**6.80 J**
Pyrene	129-00-0	180,000	2,300,000	µg/kg	**4.60 J**	**8.30 J**	**17.0 J**	11.0 U	**20.0 J**	**9.80 J**	**22.0 J**	12.0 U	**7.80 J**

Notes:

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs) and "B" to designate first subsurface interval (generally 1 to 3 ft bgs).

2. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

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Detected concentrations are bolded.

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UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.

USEPA = United States Environmental Protection Agency

References

USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf .

Table 4-3a
Reference Locations Soil Analytical Results - PAHs
Former Nike BU 51/52 Launch Area Remedial Investigation
Hamburg, New York

Location ID					NHFLA-BH40			NHFLA-BH41		NHFLA-BH42		NHFLA-BH43	
Sample ID [1]					NHFLA-BH40-A-SEP2020	NHFLA-BH40-B-SEP2020	NHFLA-DUP8-SEP2020 (FD)	NHFLA-BH41-A-SEP2020	NHFLA-BH41-B-SEP2020	NHFLA-BH42-A-SEP2020	NHFLA-BH42-B-SEP2020	NHFLA-BH43-A-SEP2020	NHFLA-BH43-B-SEP2020
Sample Type [2]					N	N	FD	N	N	N	N	N	N
Sample Date					2020-09-16	2020-09-16	2020-09-16	2020-09-15	2020-09-15	2020-09-15	2020-09-15	2020-09-15	2020-09-15
Start Depth (ft bgs)					0	1	1	0	1	0	1	0	1
End Depth (ft bgs)					1	3	3	1	3	1	3	1	3
Constituent	**CASRN**	**Residential RSL [3]**	**Industrial RSL [3]**	**Units**									
Polycyclic Aromatic Hydrocarbons (PAHs)													
2-Methylnaphthalene	91-57-6	24,000	300,000	µg/kg	12.0 U	11.0 U	11.0 U	13.0 U	11.0 U	14.0 U	12.0 U	13.0 U	12.0 U
Acenaphthene	83-32-9	360,000	4,500,000	µg/kg	12.0 U	11.0 U	11.0 U	13.0 U	11.0 U	14.0 U	12.0 U	13.0 U	12.0 U
Acenaphthylene	208-96-8	--	--	µg/kg	12.0 U	11.0 U	11.0 U	13.0 U	11.0 U	14.0 U	12.0 U	13.0 U	12.0 U
Anthracene	120-12-7	1,800,000	23,000,000	µg/kg	12.0 U	11.0 U	11.0 U	13.0 U	11.0 U	14.0 U	12.0 U	13.0 U	12.0 U
Benzo(a)anthracene	56-55-3	1,100	21,000	µg/kg	**5.90 J**	11.0 U	11.0 U	**7.20 J**	11.0 U	**9.30 J**	12.0 U	**6.60 J**	**2.30 J**
Benzo(a)pyrene	50-32-8	110	2,100	µg/kg	**6.50 J**	11.0 U	11.0 U	**9.10 J**	11.0 U	**12.0 J**	12.0 U	**8.40 J**	12.0 U
Benzo(b)fluoranthene	205-99-2	1,100	21,000	µg/kg	**14.0 J**	11.0 U	11.0 U	**16.0 J**	11.0 U	**22.0 J**	12.0 U	**17.0 J**	**5.80 J**
Benzo(g,h,i)perylene	191-24-2	--	--	µg/kg	**6.90 J**	11.0 U	11.0 U	**8.00 J**	11.0 U	**8.10 J**	12.0 U	**7.20 J**	12.0 U
Benzo(k)fluoranthene	207-08-9	11,000	210,000	µg/kg	**6.10 J**	11.0 U	11.0 U	**5.10 J**	11.0 U	**6.70 J**	12.0 U	**5.40 J**	12.0 U
Chrysene	218-01-9	110,000	2,100,000	µg/kg	**16.0 J**	11.0 UJ	**2.40 J**	**10.0 J**	**3.50 J**	**13.0 J**	**7.90 J**	**11.0 J**	**5.50 J**
Dibenz(a,h)anthracene	53-70-3	110	2100	µg/kg	12.0 U	11.0 U	11.0 U	13.0 U	11.0 U	14.0 U	12.0 U	13.0 U	12.0 U
Fluoranthene	206-44-0	240,000	3,000,000	µg/kg	**17.0 J**	11.0 U	11.0 U	**18.0 J**	11.0 U	**25.0 J**	12.0 U	**19.0 J**	**7.00 J**
Fluorene	86-73-7	240,000	3,000,000	µg/kg	12.0 U	11.0 U	11.0 U	13.0 U	11.0 U	14.0 U	12.0 U	13.0 U	12.0 U
Indeno(1,2,3-cd)pyrene	193-39-5	1,100	21,000	µg/kg	**4.80 J**	11.0 U	11.0 U	**9.20 J**	11.0 U	**7.60 J**	12.0 U	**6.60 J**	12.0 U
Naphthalene	91-20-3	2,000	8,600	µg/kg	12.0 U	11.0 U	11.0 U	13.0 U	11.0 U	14.0 U	12.0 U	13.0 U	12.0 U
Phenanthrene	85-01-8	--	--	µg/kg	**9.20 J**	11.0 U	11.0 U	**9.60 J**	11.0 U	**13.0 J**	**2.90 J**	**10.0 J**	**4.50 J**
Pyrene	129-00-0	180,000	2,300,000	µg/kg	**18.0 J**	11.0 U	11.0 U	**13.0 J**	11.0 U	**19.0 J**	12.0 U	**14.0 J**	**4.60 J**

Notes:

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs) and "B" to designate first subsurface interval (generally 1 to 3 ft bgs).

2. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

3. Screening levels are the USEPA RSLs for residential or industrial soil. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

Detected concentrations are bolded.

Acronymns and Abbreviations:

-- = not available or not analyzed.

CASRN = Chemical Abstracts Service Registry Number.

ft = feet.

ft bgs = feet below ground surface.

LOD = limit of detection.

RSL = Regional Screening Level.

µg/g = micrograms per gram.

Qualifier Definitions:

U = The analyte was not detected and was reported as less than the LOD.

J = The reported result was an estimated value.

UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.

USEPA = United States Environmental Protection Agency

References

USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf .

Table 4-3a
Reference Locations Soil Analytical Results - PAHs
Former Nike BU 51/52 Launch Area Remedial Investigation
Hamburg, New York

Location ID					NHFLA-BH44		NHFLA-BH45		NHFLA-BH46			NHFLA-BH47	
Sample ID [1]					NHFLA-BH44-A-SEP2020	NHFLA-BH44-B-SEP2020	NHFLA-BH45-A-SEP2020	NHFLA-BH45-B-SEP2020	NHFLA-BH46-A-SEP2020	NHFLA-DUP6-SEP2020 (FD)	NHFLA-BH46-B-SEP2020	NHFLA-BH47-A-SEP2020	NHFLA-BH47-B-SEP2020
Sample Type [2]					N	N	N	N	N	FD	N	N	N
Sample Date					2020-09-09	2020-09-09	2020-09-09	2020-09-09	2020-09-10	2020-09-10	2020-09-10	2020-09-15	2020-09-15
Start Depth (ft bgs)					0	1	0	1	0	0	1	0	1
End Depth (ft bgs)					1	3	1	3	1	1	3	1	3
Constituent	**CASRN**	**Residential RSL [3]**	**Industrial RSL [3]**	**Units**									
Polycyclic Aromatic Hydrocarbons (PAHs)													
2-Methylnaphthalene	91-57-6	24,000	300,000	µg/kg	11.0 U	11.0 U	12.0 U	11.0 U	12.0 U	13.0 U	11.0 U	12.0 U	11.0 U
Acenaphthene	83-32-9	360,000	4,500,000	µg/kg	11.0 U	**5.20 J**	12.0 U	11.0 U	12.0 U	13.0 U	11.0 U	**11.0 J**	11.0 U
Acenaphthylene	208-96-8	--	--	µg/kg	11.0 U	**2.20 J**	12.0 U	11.0 U	12.0 U	13.0 U	11.0 U	12.0 U	11.0 U
Anthracene	120-12-7	1,800,000	23,000,000	µg/kg	11.0 U	**9.60 J**	12.0 U	11.0 U	12.0 U	13.0 U	11.0 U	**17.0 J**	11.0 U
Benzo(a)anthracene	56-55-3	1,100	21,000	µg/kg	**2.30 J**	**74**	12.0 U	11.0 U	**7.60 J**	**9.80 J**	11.0 U	**56.0**	11.0 U
Benzo(a)pyrene	50-32-8	110	2,100	µg/kg	**7.30 J**	**88**	**5.90 J**	**7.30 J**	**10.0 J**	**13.0 J**	11.0 U	**43.0**	11.0 U
Benzo(b)fluoranthene	205-99-2	1,100	21,000	µg/kg	11.0 U	**100**	12.0 U	11.0 U	**23.0 J**	**26.0**	11.0 U	**77.0**	**3.30 J**
Benzo(g,h,i)perylene	191-24-2	--	--	µg/kg	11.0 U	**55**	12.0 U	11.0 U	**11.0 J**	**12.0 J**	11.0 U	**24.0 J**	**3.60 J**
Benzo(k)fluoranthene	207-08-9	11,000	210,000	µg/kg	11.0 U	**56**	12.0 U	11.0 U	**6.30 J**	**7.00 J**	11.0 U	**24.0 J**	11.0 U
Chrysene	218-01-9	110,000	2,100,000	µg/kg	**23**	**94**	12.0 U	**6.60 J**	**12.0 J**	**19.0 J**	**2.10 J**	**54.0**	**5.00 J**
Dibenz(a,h)anthracene	53-70-3	110	2100	µg/kg	**2.70 J**	**20.0 J**	**3.00 J**	**4.40 J**	**2.40 J**	**2.40 J**	11.0 U	**7.90 J**	11.0 U
Fluoranthene	206-44-0	240,000	3,000,000	µg/kg	11.0 U	**150**	12.0 U	11.0 U	**18.0 J**	**24.0 J**	11.0 U	**160.0**	**2.10 J**
Fluorene	86-73-7	240,000	3,000,000	µg/kg	11.0 U	**6.20 J**	12.0 U	11.0 U	12.0 U	13.0 U	11.0 U	**10.0 J**	11.0 U
Indeno(1,2,3-cd)pyrene	193-39-5	1,100	21,000	µg/kg	22.0 U	**67**	24.0 U	23.0 U	**9.20 J**	**9.80 J**	11.0 U	**26.0**	**2.30 J**
Naphthalene	91-20-3	2,000	8,600	µg/kg	11.0 U	11.0 U	12.0 U	11.0 U	12.0 U	13.0 U	11.0 U	12.0 U	11.0 U
Phenanthrene	85-01-8	--	--	µg/kg	11.0 U	**70**	12.0 U	11.0 U	**7.50 J**	**8.90 J**	11.0 U	**130.0**	**2.10 J**
Pyrene	129-00-0	180,000	2,300,000	µg/kg	11.0 U	**150**	12.0 U	11.0 U	**15.0 J**	**20.0 J**	11.0 U	**100.0**	11.0 U

Notes:

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs) and "B" to designate first subsurface interval (generally 1 to 3 ft bgs).

2. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

3. Screening levels are the USEPA RSLs for residential or industrial soil. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

Detected concentrations are bolded.

Acronymns and Abbreviations:

-- = not available or not analyzed.

CASRN = Chemical Abstracts Service Registry Number.

ft = feet.

ft bgs = feet below ground surface.

LOD = limit of detection.

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µg/g = micrograms per gram.

Qualifier Definitions:

U = The analyte was not detected and was reported as less than the LOD.

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USEPA = United States Environmental Protection Agency

References

USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf .

Table 4-3a
Reference Locations Soil Analytical Results - PAHs
Former Nike BU 51/52 Launch Area Remedial Investigation
Hamburg, New York

				Location ID	NHFLA-BH48		NHFLA-BH49		NHFLA-BH50		NHFLA-BH51	
				Sample ID [1]	NHFLA-BH48-A-SEP2020	NHFLA-BH48-B-SEP2020	NHFLA-BH49-A-SEP2020	NHFLA-BH49-B-SEP2020	NHFLA-BH50-A-SEP2020	NHFLA-BH50-B-SEP2020	NHFLA-BH51-A-SEP2020	NHFLA-BH51-B-SEP2020
				Sample Type [2]	N	N	N	N	N	N	N	N
				Sample Date	2020-09-15	2020-09-15	2020-09-09	2020-09-09	2020-09-15	2020-09-15	2020-09-09	2020-09-09
				Start Depth (ft bgs)	0	1	0	1	0	1	0	1
				End Depth (ft bgs)	1	3	1	3	1	3	1	3
Constituent	CASRN	Residential RSL [3]	Industrial RSL [3]	Units								
Polycyclic Aromatic Hydrocarbons (PAHs)												
2-Methylnaphthalene	91-57-6	24,000	300,000	µg/kg	12.0 U	11.0 U	13.0 U	10.0 U	13.0 U	12.0 U	12.0 U	12.0 U
Acenaphthene	83-32-9	360,000	4,500,000	µg/kg	12.0 U	11.0 U	13.0 U	10.0 U	13.0 U	12.0 U	12.0 U	12.0 U
Acenaphthylene	208-96-8	--	--	µg/kg	12.0 U	11.0 U	13.0 U	10.0 U	13.0 U	12.0 U	12.0 U	12.0 U
Anthracene	120-12-7	1,800,000	23,000,000	µg/kg	**2.00 J**	11.0 U	13.0 U	**1.40 J**	13.0 U	12.0 U	12.0 U	**2.30 J**
Benzo(a)anthracene	56-55-3	1,100	21,000	µg/kg	**16.0 J**	11.0 U	13.0 U	**7.60 J**	**6.80 J**	12.0 U	**2.40 J**	**10.0 J**
Benzo(a)pyrene	50-32-8	110	2,100	µg/kg	**18.0 J**	11.0 U	**13.0 J**	**14.0 J**	**8.30 J**	12.0 U	**8.40 J**	**18.0 J**
Benzo(b)fluoranthene	205-99-2	1,100	21,000	µg/kg	**34.0**	11.0 U	**12.0 J**	**14.0 J**	**18.0 J**	12.0 U	12.0 U	**17.0 J**
Benzo(g,h,i)perylene	191-24-2	--	--	µg/kg	**12.0 J**	11.0 U	27.0 U	21.0 U	**7.70 J**	12.0 U	12.0 U	25.0 U
Benzo(k)fluoranthene	207-08-9	11,000	210,000	µg/kg	**9.20 J**	11.0 U	**9.20 J**	**12.0 J**	**5.00 J**	12.0 U	12.0 U	**13.0 J**
Chrysene	218-01-9	110,000	2,100,000	µg/kg	**23.0 J**	**7.80 J**	**11.0 J**	**10.0 J**	**11.0 J**	**6.00 J**	12.0 U	**14.0 J**
Dibenz(a,h)anthracene	53-70-3	110	2100	µg/kg	**2.70 J**	11.0 U	13.0 U	**4.50 J**	13.0 U	12.0 U	**3.20 J**	**5.20 J**
Fluoranthene	206-44-0	240,000	3,000,000	µg/kg	**44.0**	11.0 U	**7.80 J**	**9.40 J**	**17.0 J**	12.0 U	12.0 U	**16.0 J**
Fluorene	86-73-7	240,000	3,000,000	µg/kg	12.0 U	11.0 U	13.0 U	10.0 U	13.0 U	12.0 U	12.0 U	12.0 U
Indeno(1,2,3-cd)pyrene	193-39-5	1,100	21,000	µg/kg	**11.0 J**	11.0 U	27.0 U	21.0 U	**8.00 J**	12.0 U	24.0 U	25.0 U
Naphthalene	91-20-3	2,000	8,600	µg/kg	12.0 U	11.0 U	13.0 U	10.0 U	13.0 U	12.0 U	12.0 U	12.0 U
Phenanthrene	85-01-8	--	--	µg/kg	**22.0 J**	**7.00 J**	13.0 U	10.0 U	**9.60 J**	**2.20 J**	12.0 U	12.0 U
Pyrene	129-00-0	180,000	2,300,000	µg/kg	**30.0**	11.0 U	**11.0 J**	**13.0 J**	**13.0 J**	12.0 U	12.0 U	**20.0 J**

Notes:

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs) and "B" to designate first subsurface interval (generally 1 to 3 ft bgs).

2. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

3. Screening levels are the USEPA RSLs for residential or industrial soil. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

Detected concentrations are bolded.

Acronymns and Abbreviations:

-- = not available or not analyzed.

CASRN = Chemical Abstracts Service Registry Number.

ft = feet.

ft bgs = feet below ground surface.

LOD = limit of detection.

RSL = Regional Screening Level.

µg/g = micrograms per gram.

Qualifier Definitions:

U = The analyte was not detected and was reported as less than the LOD.

J = The reported result was an estimated value.

UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.

USEPA = United States Environmental Protection Agency

References

USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf .

Table 4-3b
Reference Locations Soil Analytical Results - Metals
Former Nike Battery BU 51/52 Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Residential RSL [3]	Industrial RSL [3]	Units	NHFLA-BH36		NHFLA-BH37		NHFLA-BH38		NHFLA-BH39		
Location ID					NHFLA-BH36-A-SEP2020	NHFLA-BH36-B-SEP2020	NHFLA-BH37-A-SEP2020	NHFLA-BH37-B-SEP2020	NHFLA-BH38-A-SEP2020	NHFLA-BH38-B-SEP2020	NHFLA-BH39-A-SEP2020	NHFLA-BH39-B-SEP2020	NHFLA-DUP9-SEP2020 (FD)
Sample ID [1]													
Sample Type [2]					N	N	N	N	N	N	N	N	FD
Sample Date					9/15/2020	9/15/2020	9/16/2020	9/16/2020	9/16/2020	9/16/2020	9/16/2020	9/16/2020	9/16/2020
Start Depth (ft bgs)					0	1	0	1	0	1	0	1	1
End Depth (ft bgs)					1	3	1	3	1	3	1	3	3
Inorganics													
Aluminum	7429-90-5	7,700	110,000	mg/kg	**12200**	**16400**	**15100**	**13000**	**14800**	**14200**	**18500**	**16500**	**17000**
Antimony	7440-36-0	3.1	47	mg/kg	1.10 U	**0.210 J**	0.610 U	1.00 U	1.10 U	1.10 U	1.10 UJ	1.20 U	1.10 U
Arsenic	7440-38-2	0.68	3	mg/kg	**7.29**	**7.19**	**8.95**	**12**	**13.8**	**14.8**	**21.3 J**	**18.5**	**17.3**
Barium	7440-39-3	1,500	22,000	mg/kg	**69**	**104**	**78.3**	**70.3**	**66.8**	**74.3**	**72.7 J**	**110**	**105**
Beryllium	7440-41-7	16	230	mg/kg	**0.616 J**	**0.781**	**0.596 J**	**0.609 J**	**0.626 J**	**0.779 J**	**0.730 J**	**0.989 J**	**0.968**
Cadmium	7440-43-9	7.1	98	mg/kg	**0.345 J**	**0.615**	**0.728**	**0.489 J**	**0.751 J**	**1.66**	**1.1**	**3.07**	**2.8**
Calcium	7440-70-2	--	--	mg/kg	**77900**	**6360**	**3900**	**28400**	**1290**	**12400**	**1150**	**3400**	**4150**
Chromium [6]	7440-47-3	12,000	180,000	mg/kg	**17.1**	**19**	**16.9**	**16.7**	**16.4**	**16.6**	**19.8 J**	**21.1**	**23**
Chromium, Hexavalent	18540-29-9	0.3	6.3	mg/kg	0.360 U	0.730 U	0.790 U	0.330 U	R	0.350 U	0.350 U	0.370 U	0.360 U
Cobalt	7440-48-4	2.3	35	mg/kg	**7.97**	**7.79**	**6.91**	**8.86**	**11.4**	**17**	**14.0 J**	**20.6**	**20.8**
Copper	7440-50-8	310	4,700	mg/kg	**23.8**	**16.3**	**15.5**	**32**	**29.2**	**38**	**36.9 J**	**52.1**	**52.3**
Iron	7439-89-6	5,500	82,000	mg/kg	**21300**	**22700**	**22900**	**25200**	**32800**	**38700**	**47600**	**54300**	**54100**
Lead	7439-92-1	400	800	mg/kg	**11.5**	**23.2**	**24.9**	**13.3**	**37.9**	**24.6**	**35.6 J**	**35.3**	**28.3**
Magnesium	7439-95-4	--	--	mg/kg	**8980**	**2640**	**2220**	**6100**	**1780**	**3340**	**2130 J**	**3310**	**3540**
Manganese	7439-96-5	180	2,600	mg/kg	**316**	**286**	**225**	**278**	**201**	**611**	**351**	**2380**	**3200**
Mercury [7]	7439-97-6	2.3	35	mg/kg	**0.0350 J**	**0.124**	**0.075**	**0.0614**	**0.056**	**0.0865**	**0.0756**	**0.125 J**	**0.141 J**
Nickel	7440-02-0	150	2,200	mg/kg	**30.1**	**23.3**	**22.6**	**36.8**	**36**	**56.2**	**44.8 J**	**78.2**	**75.8**
Potassium	7440-09-7	--	--	mg/kg	**2060**	**1730**	**1250**	**1310**	**1230**	**1410**	**1300 J**	**1590**	**1790**
Selenium	7782-49-2	39	580	mg/kg	**0.870 J**	**1.4**	**1.3**	**1.20 J**	**1.50 J**	**1.20 J**	**2.2**	**2.8**	**1.90 J**
Silver	7440-22-4	39	580	mg/kg	0.900 U	**0.110 J**	**0.336 J**	0.810 U	0.910 U	0.860 U	**0.649 J**	0.980 U	0.900 U
Sodium	7440-23-5	--	--	mg/kg	**112 J**	**49.1 J**	61.0 U	100 U	110 U	110 U	110 U	120 U	56.0 U
Thallium	7440-28-0	0.078	1.2	mg/kg	1.10 U	0.600 U	**0.140 J**	**0.260 J**	1.10 U	**0.440 J**	1.10 U	1.20 U	2.80 U
Vanadium	7440-62-2	39	580	mg/kg	**26.6**	**41.1**	**37.8**	**30.7**	**36.6**	**31.3**	**42.7 J**	**31.7**	**35.1**
Zinc	7440-66-6	2,300	35,000	mg/kg	**81.7**	**114**	**113**	**128**	**158**	**276**	**214 J**	**369**	**362**
General Chemistry													
Total Organic Carbon	ARC-TOC	--	--	µg/g	--	--	--	--	--	--	--	--	--
pH	ARC-pH	--	--	pH units	--	--	--	--	--	--	--	--	--

Notes:

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs) and "B" to designate first subsurface interval (generally 1 to 3 ft bgs).

2. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

3. Screening levels are the USEPA RSLs for residential or industrial soil. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

6. Screening level is for chromium III.

7. Screening level is for mercuric chloride.

Detected concentrations are bolded.

Detected concentrations that exceed residential RSLs are bolded and shaded yellow.

Detected concentrations that exceed industrial RSLs are bolded and shaded orange.

References

USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

-- = not available or not analyzed.

CASRN = Chemical Abstracts Service Registry Number.

ft = feet.

ft bgs = feet below ground surface.

LOD = limit of detection.

RSL = Regional Screening Level.

µg/g = micrograms per gram.

mg/kg = milligrams per kilogram.

USEPA = United States Environmental Protection Agency

U = The analyte was not detected and was reported as less than the LOD.

J = The reported result was an estimated value.

UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.

R = The data validator flagged the data with “X” qualifiers due to significant QC deficiencies in the laboratory analysis of the samples. The project team performed

Table 4-3b
Reference Locations Soil Analytical Results - Metals
Former Nike Battery BU 51/52 Launch Area Remedial Investigation
Hamburg, New York

				Location ID	NHFLA-BH40			NHFLA-BH41		NHFLA-BH42		NHFLA-BH43	
				Sample ID [1]	NHFLA-BH40-A-SEP2020	NHFLA-BH40-B-SEP2020	NHFLA-DUP8-SEP2020 (FD)	NHFLA-BH41-A-SEP2020	NHFLA-BH41-B-SEP2020	NHFLA-BH42-A-SEP2020	NHFLA-BH42-B-SEP2020	NHFLA-BH43-A-SEP2020	NHFLA-BH43-B-SEP2020
				Sample Type [2]	N	N	FD	N	N	N	N	N	N
				Sample Date	9/16/2020	9/16/2020	9/16/2020	9/15/2020	9/15/2020	9/15/2020	9/15/2020	9/15/2020	9/15/2020
				Start Depth (ft bgs)	0	1	1	0	1	0	1	0	1
				End Depth (ft bgs)	1	3	3	1	3	1	3	1	3
Constituent	CASRN	Residential RSL [3]	Industrial RSL [3]	Units									
Inorganics													
Aluminum	7429-90-5	7,700	110,000	mg/kg	**13600**	**13000**	**13600**	**18200**	**10000**	**19400**	**12800**	**16600**	**14300**
Antimony	7440-36-0	3.1	47	mg/kg	1.10 U	1.00 U	1.10 U	0.630 U	0.880 U	**0.0840 J**	**0.580 J**	**0.220 J**	0.610 U
Arsenic	7440-38-2	0.68	3	mg/kg	**11.2**	**5.77**	**5.5**	**9.31**	**9.87**	**9.63**	**15.7**	**11.2**	**11.6**
Barium	7440-39-3	1,500	22,000	mg/kg	**98.5**	**67.5**	**72.2**	**115**	**68.2**	**111**	**85.4**	**112**	**101**
Beryllium	7440-41-7	16	230	mg/kg	**0.713 J**	**0.609 J**	**0.617 J**	**0.835**	**0.629 J**	**0.789**	**0.892 J**	**0.862**	**0.831**
Cadmium	7440-43-9	7.1	98	mg/kg	**1.16**	**0.221 J**	**0.268 J**	**0.455 J**	**0.294 J**	**0.447 J**	**0.894 J**	**0.577 J**	**0.525 J**
Calcium	7440-70-2	--	--	mg/kg	**5740**	**80600**	**87400**	**3610**	**49300**	**1770**	**2900**	**4220**	**11300**
Chromium [6]	7440-47-3	12,000	180,000	mg/kg	**16.5**	**18.4**	**19.5**	**20.7**	**13.7**	**21.3**	**19**	**20**	**17.8**
Chromium, Hexavalent	18540-29-9	0.3	6.3	mg/kg	**0.250 J**	**0.320 J**	0.320 U	0.780 U	0.330 U	0.410 UJ	**0.420 J**	0.400 U	0.370 U
Cobalt	7440-48-4	2.3	35	mg/kg	**10.3**	**9.83**	**9.8**	**6.5**	**7.98**	**7.6**	**13**	**9.29**	**9.91**
Copper	7440-50-8	310	4,700	mg/kg	**24.9**	**30**	**28.8**	**14.1**	**28.4**	**10.7**	**46.5**	**18.6**	**24.4**
Iron	7439-89-6	5,500	82,000	mg/kg	**36500**	**21600**	**21400**	**24100**	**21900**	**26300**	**33600**	**27400**	**28300**
Lead	7439-92-1	400	800	mg/kg	**27.7**	**9.38**	**9.8**	**24.6**	**12.1**	**31.3**	**20.3**	**22.2**	**19.1**
Magnesium	7439-95-4	--	--	mg/kg	**2200**	**10400**	**11300**	**2660**	**5060**	**2270**	**3650**	**2800**	**3980**
Manganese	7439-96-5	180	2,600	mg/kg	**586**	**370**	**376**	**225**	**300**	**227**	**354**	**507**	**388**
Mercury [7]	7439-97-6	2.3	35	mg/kg	**0.0935**	**0.0170 J**	**0.0180 J**	**0.0986**	**0.036**	**0.0943**	**0.042**	**0.112**	**0.0729**
Nickel	7440-02-0	150	2,200	mg/kg	**33.4**	**30.9**	**30.8**	**25.6**	**37.8**	**25.4**	**57.2**	**30.3**	**35.8**
Potassium	7440-09-7	--	--	mg/kg	**1180**	**2670**	**2860**	**1730**	**1200**	**1640**	**1130**	**1810**	**1320**
Selenium	7782-49-2	39	580	mg/kg	**1.80 J**	**0.740 J**	1.50 U	**1.6**	**0.680 J**	**1.7**	**2**	**1.9**	**1.3**
Silver	7440-22-4	39	580	mg/kg	**0.0590 J**	**0.100 J**	0.860 U	**0.120 J**	0.700 U	**0.210 J**	0.740 U	**0.260 J**	**0.150 J**
Sodium	7440-23-5	--	--	mg/kg	110 U	210 U	210 U	**67.2 J**	**111 J**	**53.1 J**	**60.8 J**	**61.2 J**	**68.5 J**
Thallium	7440-28-0	0.078	1.2	mg/kg	1.10 U	1.00 U	1.10 U	0.630 U	**0.420 J**	0.570 U	**0.280 J**	0.660 U	0.610 U
Vanadium	7440-62-2	39	580	mg/kg	**33.2**	**24.9**	**26.3**	**46.9**	**24.6**	**47.2**	**32.3**	**44.2**	**35.8**
Zinc	7440-66-6	2,300	35,000	mg/kg	**168**	**71.4**	**68.8**	**109**	**73.5**	**155**	**183**	**112**	**100**
General Chemistry													
Total Organic Carbon	ARC-TOC	--	--	µg/g	--	--	--	--	--	--	--	--	--
pH	ARC-pH	--	--	pH units	--	--	--	--	--	--	--	--	--

Notes:

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs) and "B" to designate first subsurface inte ft bgs).

2. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

3. Screening levels are the USEPA RSLs for residential or industrial soil. The RSLs are concentrations associa risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

6. Screening level is for chromium III.

7. Screening level is for mercuric chloride.

Detected concentrations are bolded.

Detected concentrations that exceed residential RSLs are bolded and shaded yellow.

Detected concentrations that exceed industrial RSLs are bolded and shaded orange.

References

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J = The reported result was an estimated value.

UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.

R = The data validator flagged the data with "X" qualifiers due to significant QC deficiencies in the laboratory analysis of the samples. The project team performed data usability assessment and recommended these data to be rejected/ are not usable ("R" qualifiers).

Table 4-3b
Reference Locations Soil Analytical Results - Metals
Former Nike Battery BU 51/52 Launch Area Remedial Investigation
Hamburg, New York

				Location ID	NHFLA-BH44		NHFLA-BH45		NHFLA-BH46			NHFLA-BH47	
				Sample ID [1]	NHFLA-BH44-A-SEP2020	NHFLA-BH44-B-SEP2020	NHFLA-BH45-A-SEP2020	NHFLA-BH45-B-SEP2020	NHFLA-BH46-A-SEP2020	NHFLA-DUP6-SEP2020 (FD)	NHFLA-BH46-B-SEP2020	NHFLA-BH47-A-SEP2020	NHFLA-BH47-B-SEP2020
				Sample Type [2]	N	N	N	N	N	FD	N	N	N
				Sample Date	9/9/2020	9/9/2020	9/9/2020	9/9/2020	9/10/2020	9/10/2020	9/10/2020	9/15/2020	9/15/2020
				Start Depth (ft bgs)	0	1	0	1	0	0	1	0	1
				End Depth (ft bgs)	1	3	1	3	1	1	3	1	3
Constituent	CASRN	Residential RSL [3]	Industrial RSL [3]	Units									
Inorganics													
Aluminum	7429-90-5	7,700	110,000	mg/kg	**16200**	**17800**	**18100**	**8750**	**18200**	**15900**	**14600**	**18100**	**14400**
Antimony	7440-36-0	3.1	47	mg/kg	**0.500 J**	**0.970 J**	**0.710 J**	0.510 U	R	R	1.00 U	0.620 U	**0.590 J**
Arsenic	7440-38-2	0.68	3	mg/kg	**10**	**19.3**	**14.6**	**10.3**	**11.4**	**18**	**6.4**	**16.4**	**17.6**
Barium	7440-39-3	1,500	22,000	mg/kg	**84.2**	**98.6**	**98.2**	**34.4**	**111**	**100**	**72.8**	**122**	**105**
Beryllium	7440-41-7	16	230	mg/kg	**0.669**	**0.724 J**	**1.01 J**	**0.565**	**0.929**	**1.01**	**0.712**	**0.91**	**0.833 J**
Cadmium	7440-43-9	7.1	98	mg/kg	**0.587 J**	**0.216 J**	**0.791 J**	**0.294 J**	**0.668**	**1.02 J**	**0.110 J**	**0.956**	**1.6**
Calcium	7440-70-2	--	--	mg/kg	**6360**	**2630**	**2590**	**934**	**3380**	**3480**	**49900**	**2870**	**3130**
Chromium [6]	7440-47-3	12,000	180,000	mg/kg	**21.4**	**19**	**20.6**	**11.6**	**21.8**	**20.4**	**20.5**	**22.6**	**18.6**
Chromium, Hexavalent	18540-29-9	0.3	6.3	mg/kg	0.370 U	**0.180 J**	0.390 U	0.340 U	R	**0.720 J**	**0.250 J**	0.370 U	0.330 U
Cobalt	7440-48-4	2.3	35	mg/kg	**7**	**7.43**	**9.29**	**8.47**	**9.56 J**	**20.2 J**	**9.42**	**9.92**	**14.6**
Copper	7440-50-8	310	4,700	mg/kg	**21.7**	**16.1**	**21.4**	**20.9**	**26.3 J**	**31.7 J**	**27.1**	**23.2**	**43**
Iron	7439-89-6	5,500	82,000	mg/kg	**21700**	**35500**	**27600**	**18200**	**28200**	**35700**	**26300**	**32900**	**33800**
Lead	7439-92-1	400	800	mg/kg	**26.8**	**20.1**	**27.9**	**12.6**	**20.5 J**	**31.7 J**	**11.8**	**28.6**	**17.2**
Magnesium	7439-95-4	--	--	mg/kg	**3130**	**2200**	**2930**	**2000**	**3040**	**2790**	**9080**	**2930**	**3410**
Manganese	7439-96-5	180	2,600	mg/kg	**272**	**103**	**360**	**228**	**327 J**	**896 J**	**379**	**419**	**460**
Mercury [7]	7439-97-6	2.3	35	mg/kg	**0.152**	**0.0518**	**0.0724**	**0.0250 J**	**0.0872**	**0.0836**	**0.0330 J**	**0.102**	**0.047**
Nickel	7440-02-0	150	2,200	mg/kg	**23.6**	**28.3**	**32.1**	**25.8**	**39.1 J**	**43.3 J**	**36.5**	**34.7**	**76.8**
Potassium	7440-09-7	--	--	mg/kg	**1560**	**1580**	**2060**	**1650**	**2140**	**1960**	**2160**	**2120**	**1990**
Selenium	7782-49-2	39	580	mg/kg	**1.5**	**3.5**	**1.90 J**	**1.2**	**2**	**2.10 J**	**0.790 J**	**2**	**2.20 J**
Silver	7440-22-4	39	580	mg/kg	**1.11 J**	**0.902 J**	**0.930 J**	**0.140 J**	**0.517 J**	**0.360 J**	0.810 U	**0.180 J**	0.920 U
Sodium	7440-23-5	--	--	mg/kg	120 U	100 U	110 U	100 U	120 U	130 U	**130**	**81.7 J**	**109 J**
Thallium	7440-28-0	0.078	1.2	mg/kg	**0.820 J**	**1.10 J**	**0.760 J**	**0.260 J**	**1.32 J**	**0.460 J**	1.00 U	0.620 U	**1.20 J**
Vanadium	7440-62-2	39	580	mg/kg	**34.9**	**45.6**	**43.9**	**23.7**	**45**	**45.4**	**26.4**	**49.3**	**38.7**
Zinc	7440-66-6	2,300	35,000	mg/kg	**126**	**152**	**193**	**95.7**	**160 J**	**156 J**	**65.8**	**177**	**251**
General Chemistry													
Total Organic Carbon	ARC-TOC	--	--	µg/g	--	--	--	--	--	--	--	--	--
pH	ARC-pH	--	--	pH units	--	--	--	--	--	--	--	--	--

Notes:

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs) and "B" to designate first subsurface inte ft bgs).

2. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

3. Screening levels are the USEPA RSLs for residential or industrial soil. The RSLs are concentrations associa risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

6. Screening level is for chromium III.

7. Screening level is for mercuric chloride.

Detected concentrations are bolded.

Detected concentrations that exceed residential RSLs are bolded and shaded yellow.

Detected concentrations that exceed industrial RSLs are bolded and shaded orange.

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J = The reported result was an estimated value.

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Table 4-3b
Reference Locations Soil Analytical Results - Metals
Former Nike Battery BU 51/52 Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Residential RSL [3]	Industrial RSL [3]	Units	NHFLA-BH48		NHFLA-BH49		NHFLA-BH50		NHFLA-BH51	
Location ID					NHFLA-BH48		NHFLA-BH49		NHFLA-BH50		NHFLA-BH51	
Sample ID [1]					NHFLA-BH48-A-SEP2020	NHFLA-BH48-B-SEP2020	NHFLA-BH49-A-SEP2020	NHFLA-BH49-B-SEP2020	NHFLA-BH50-A-SEP2020	NHFLA-BH50-B-SEP2020	NHFLA-BH51-A-SEP2020	NHFLA-BH51-B-SEP2020
Sample Type [2]					N	N	N	N	N	N	N	N
Sample Date					9/15/2020	9/15/2020	9/9/2020	9/9/2020	9/15/2020	9/15/2020	9/9/2020	9/9/2020
Start Depth (ft bgs)					0	1	0	1	0	1	0	1
End Depth (ft bgs)					1	3	1	3	1	3	1	3
Inorganics												
Aluminum	7429-90-5	7,700	110,000	mg/kg	**12900**	**8620**	**20700**	**14000**	**23400**	**13700**	**17700**	**12700**
Antimony	7440-36-0	3.1	47	mg/kg	**0.140 J**	0.540 U	**0.960 J**	**1.20 J**	0.600 U	0.750 U	**0.470 J**	**0.310 J**
Arsenic	7440-38-2	0.68	3	mg/kg	**14.9**	**10.8**	**21.1**	**15.7**	**12.7**	**9.33**	**11.3**	**15.4**
Barium	7440-39-3	1,500	22,000	mg/kg	**64**	**50.3**	**114**	**62**	**117**	**72.8**	**95.2**	**54.2**
Beryllium	7440-41-7	16	230	mg/kg	**0.683**	**0.528 J**	**1.88**	**0.758 J**	**1.12**	**0.705**	**0.661**	**0.563 J**
Cadmium	7440-43-9	7.1	98	mg/kg	**0.427 J**	**0.865**	**0.716 J**	**0.455 J**	**1.33**	**1.77**	**0.420 J**	**0.0610 J**
Calcium	7440-70-2	--	--	mg/kg	**1170**	**25900**	**2150**	**1300**	**1790**	**1100**	**3290**	**1130**
Chromium [6]	7440-47-3	12,000	180,000	mg/kg	**17**	**13.1**	**24.8**	**18.2**	**24.7**	**16**	**18.9**	**14.8**
Chromium, Hexavalent	18540-29-9	0.3	6.3	mg/kg	0.380 U	**0.230 J**	0.390 U	0.370 U	0.390 U	**0.350 J**	0.400 U	0.370 U
Cobalt	7440-48-4	2.3	35	mg/kg	**17.5**	**13**	**15.9**	**13.4**	**10.9**	**14**	**6.95**	**5.53**
Copper	7440-50-8	310	4,700	mg/kg	**32.8**	**37.7**	**18.2**	**35.6**	**16.9**	**31.7**	**12.8**	**31.5**
Iron	7439-89-6	5,500	82,000	mg/kg	**28300**	**22900**	**45600**	**35500**	**26700**	**20600**	**22300**	**27100**
Lead	7439-92-1	400	800	mg/kg	**24.4**	**14.1**	**38.1**	**23**	**25.8**	**13.9**	**25.4**	**16.6**
Magnesium	7439-95-4	--	--	mg/kg	**2640**	**3540**	**2340**	**2930**	**2610**	**2400**	**2140**	**2660**
Manganese	7439-96-5	180	2,600	mg/kg	**773**	**276**	**650**	**563**	**737**	**514**	**373**	**95.6**
Mercury [7]	7439-97-6	2.3	35	mg/kg	**0.0707**	**0.038**	**0.106**	**0.055**	**0.103**	**0.0794**	**0.0951**	**0.0618**
Nickel	7440-02-0	150	2,200	mg/kg	**38.2**	**53.8**	**30**	**47.1**	**34.6**	**50.4**	**19.1**	**38.5**
Potassium	7440-09-7	--	--	mg/kg	**1690**	**1760**	**1820**	**1820**	**2210**	**1390**	**1680**	**1410**
Selenium	7782-49-2	39	580	mg/kg	**1.9**	**0.800 J**	**2.20 J**	**1.9**	**2.36**	**1.2**	**1.6**	**1.1**
Silver	7440-22-4	39	580	mg/kg	**0.170 J**	**0.110 J**	**0.962 J**	**0.807 J**	**0.260 J**	**0.190 J**	**0.936 J**	**1.05 J**
Sodium	7440-23-5	--	--	mg/kg	**60.7 J**	**89.6 J**	130 U	93.0 U	**72.9 J**	**59.9 J**	95.0 U	**49.2 J**
Thallium	7440-28-0	0.078	1.2	mg/kg	0.600 U	**0.790 J**	**0.850 J**	**0.940 J**	**1.14 J**	**0.974 J**	**0.820 J**	**0.790 J**
Vanadium	7440-62-2	39	580	mg/kg	**38.2**	**22.5**	**64.6**	**38.8**	**59.9**	**33.8**	**41.9**	**26.4**
Zinc	7440-66-6	2,300	35,000	mg/kg	**112**	**110**	**207**	**150**	**255**	**165**	**120**	**80**
General Chemistry												
Total Organic Carbon	ARC-TOC	--	--	µg/g	--	--	--	--	--	--	--	--
pH	ARC-pH	--	--	pH units	--	--	--	--	--	--	--	--

Notes:

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs) and "B" to designate first subsurface inte ft bgs).

2. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

3. Screening levels are the USEPA RSLs for residential or industrial soil. The RSLs are concentrations associa risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

6. Screening level is for chromium III.

7. Screening level is for mercuric chloride.

Detected concentrations are bolded.

Detected concentrations that exceed residential RSLs are bolded and shaded yellow.

Detected concentrations that exceed industrial RSLs are bolded and shaded orange.

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UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.

R = The data validator flagged the data with “X” qualifiers due to significant QC deficiencies in the laboratory analysis of the samples. The project team performed data usability assessment and recommended these data to be rejected/ are not usable (“R” qualifiers).

Table 4-4a
Groundwater Analytical Results - VOCs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW1BR		NHFLA-MW1OB		NHFLA-MW2		
			Sample ID[1]	NHFLA-MW1BR-SEP2020	NHFLA-MW-1BR-DEC2020	NHFLA-MW1OB-SEP2020	NHFLA-MW-1OB-DEC2020	NHFLA-DUP11-SEP2020 (FD)	NHFLA-MW2-SEP2020	NHFLA-MW2-DEC2020
			Sampling Date	30-Sep-20	16-Dec-20	30-Sep-20	16-Dec-20	23-Sep-20	23-Sep-20	15-Dec-20
			Tapwater RSL[2]							
Volatile Organic Compounds										
1,1,1-Trichloroethane	71-55-6	µg/L	800	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	0.076	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	µg/L	1000	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,1,2-Trichloroethane	79-00-5	µg/L	0.041	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,1-Dichloroethane	75-34-3	µg/L	2.8	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,1-Dichloroethene	75-35-4	µg/L	28	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2,3-Trichlorobenzene	87-61-6	µg/L	0.7	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2,4-Trichlorobenzene	120-82-1	µg/L	0.4	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.00033	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.0075	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dichlorobenzene	95-50-1	µg/L	30	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dichloroethane	107-06-2	µg/L	0.17	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dichloropropane	78-87-5	µg/L	0.82	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,3-Dichlorobenzene	541-73-1	µg/L	--	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,4-Dichlorobenzene	106-46-7	µg/L	0.48	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
2-Butanone (MEK)	78-93-3	µg/L	560	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	**1.50 J**	2.50 U
2-Hexanone	591-78-6	µg/L	3.8	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	630	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
Acetone	67-64-1	µg/L	1400	2.50 U	2.50 U	2.50 U	2.50 U	**2.80 J**	**3.60 J**	2.50 U
Benzene	71-43-2	µg/L	0.46	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Bromochloromethane	74-97-5	µg/L	8.3	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Bromodichloromethane	75-27-4	µg/L	0.13	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Bromoform	75-25-2	µg/L	3.3	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Bromomethane	74-83-9	µg/L	0.75	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 UJ	1.00 U
Carbon disulfide	75-15-0	µg/L	81	0.500 U	0.500 U	0.500 U	0.500 U	**0.270 J**	**0.260 J**	0.500 U
Carbon tetrachloride	56-23-5	µg/L	0.46	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Chlorobenzene	108-90-7	µg/L	7.8	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Chloroethane	75-00-3	µg/L	2100	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Chloroform	67-66-3	µg/L	0.22	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Chloromethane	74-87-3	µg/L	19	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
cis-1,2-Dichloroethene	156-59-2	µg/L	3.6	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
cis-1,3-Dichloropropene	10061-01-5	µg/L	--	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Cyclohexane	110-82-7	µg/L	1300	**7.00**	**2.30**	**2.40**	0.500 U	**1.70 J**	**1.80 J**	0.500 U
Dibromochloromethane	124-48-1	µg/L	0.87	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Dichlorodifluoromethane	75-71-8	µg/L	20	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Ethylbenzene	100-41-4	µg/L	1.5	**0.890 J**	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U

Table 4-4a
Groundwater Analytical Results - VOCs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW1BR		NHFLA-MW1OB		NHFLA-MW2		
			Sample ID[1]	NHFLA-MW1BR-SEP2020	NHFLA-MW-1BR-DEC2020	NHFLA-MW1OB-SEP2020	NHFLA-MW-1OB-DEC2020	NHFLA-DUP11-SEP2020 (FD)	NHFLA-MW2-SEP2020	NHFLA-MW2-DEC2020
			Sampling Date	30-Sep-20	16-Dec-20	30-Sep-20	16-Dec-20	23-Sep-20	23-Sep-20	15-Dec-20
			Tapwater RSL[2]							
Isopropylbenzene (Cumene)	98-82-8	µg/L	45	**0.360 J**	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
m,p-Xylene[3]	ARC-mpXyl	µg/L	19	**2.60**	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Methyl acetate	79-20-9	µg/L	2000	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U
Methyl tert-butyl ether (MTBE)	1634-04-4	µg/L	14	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Methylcyclohexane	108-87-2	µg/L	--	**14.0**	**7.40**	**6.80**	0.500 U	**5.10 J**	**5.20 J**	0.500 U
Methylene chloride	75-09-2	µg/L	11	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
o-Xylene	95-47-6	µg/L	19	**0.710 J**	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Styrene	100-42-5	µg/L	120	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Tetrachloroethene (PCE)	127-18-4	µg/L	4.1	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Toluene	108-88-3	µg/L	110	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
trans-1,2-Dichloroethene	156-60-5	µg/L	6.8	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	--	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Trichloroethene (TCE)	79-01-6	µg/L	0.28	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Trichlorofluoromethane	75-69-4	µg/L	520	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Vinyl chloride	75-01-4	µg/L	0.019	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U

Notes:

1. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

2. Screening levels are the USEPA RSLs for tapwater. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

3. Screening level is for m-xylenes.

Detected concentrations are bolded.

Detected concentrations exceeding the tapwater RSLs are bolded and shaded yellow.

Acronymns and Abbreviations:
-- = not available or not analyzed.
CASRN = Chemical Abstracts Service Registry Number.
LOD = limit of detection.
RSL = Regional Screening Level.
µg/L = micrograms per liter.

Qualifier Definitions:
U = The analyte was not detected and was reported as less than the LOD.
J = The reported result was an estimated value.
UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.

References

USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-4a
Groundwater Analytical Results - VOCs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW3		NHFLA-MW4BR		NHFLA-MW4OB		NHFLA-MW5BR
			Sample ID[1]	NHFLA-MW3-SEP2020	NHFLA-MW3-DEC2020	NHFLA-MW4BR-SEP2020	NHFLA-MW4BR-DEC2020	NHFLA-MW4OB-SEP2020	NHFLA-MW4OB-DEC2020	NHFLA-MW5BR-SEP2020
			Sampling Date	24-Sep-20	15-Dec-20	29-Sep-20	16-Dec-20	29-Sep-20	16-Dec-20	29-Sep-20
			Tapwater RSL[2]							
Volatile Organic Compounds										
1,1,1-Trichloroethane	71-55-6	µg/L	800	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	0.076	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	µg/L	1000	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,1,2-Trichloroethane	79-00-5	µg/L	0.041	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,1-Dichloroethane	75-34-3	µg/L	2.8	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,1-Dichloroethene	75-35-4	µg/L	28	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2,3-Trichlorobenzene	87-61-6	µg/L	0.7	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2,4-Trichlorobenzene	120-82-1	µg/L	0.4	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.00033	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.0075	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dichlorobenzene	95-50-1	µg/L	30	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dichloroethane	107-06-2	µg/L	0.17	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dichloropropane	78-87-5	µg/L	0.82	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,3-Dichlorobenzene	541-73-1	µg/L	--	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,4-Dichlorobenzene	106-46-7	µg/L	0.48	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
2-Butanone (MEK)	78-93-3	µg/L	560	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	**60.0**
2-Hexanone	591-78-6	µg/L	3.8	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	**4.00 J**
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	630	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
Acetone	67-64-1	µg/L	1400	2.50 U	2.50 U	26.0 U	**12.0 J**	5.00 U	2.50 U	**120**
Benzene	71-43-2	µg/L	0.46	0.500 U	0.500 U	**0.560 J**	**5**	0.500 U	0.500 U	**210**
Bromochloromethane	74-97-5	µg/L	8.3	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Bromodichloromethane	75-27-4	µg/L	0.13	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Bromoform	75-25-2	µg/L	3.3	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Bromomethane	74-83-9	µg/L	0.75	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Carbon disulfide	75-15-0	µg/L	81	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	1.00 U
Carbon tetrachloride	56-23-5	µg/L	0.46	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Chlorobenzene	108-90-7	µg/L	7.8	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Chloroethane	75-00-3	µg/L	2100	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Chloroform	67-66-3	µg/L	0.22	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	**2.2**
Chloromethane	74-87-3	µg/L	19	1.00 U	1.00 U	1.00 U	**4**	1.00 U	1.00 U	1.00 U
cis-1,2-Dichloroethene	156-59-2	µg/L	3.6	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
cis-1,3-Dichloropropene	10061-01-5	µg/L	--	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Cyclohexane	110-82-7	µg/L	1300	**0.950 J**	0.500 U	**73.0**	**10**	**2.90**	0.500 U	**110**
Dibromochloromethane	124-48-1	µg/L	0.87	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Dichlorodifluoromethane	75-71-8	µg/L	20	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Ethylbenzene	100-41-4	µg/L	1.5	0.500 U	0.500 U	**0.430 J**	**1.2**	0.500 U	0.500 U	**11**

Table 4-4a
Groundwater Analytical Results - VOCs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW3		NHFLA-MW4BR		NHFLA-MW4OB		NHFLA-MW5BR
			Sample ID[1]	NHFLA-MW3-SEP2020	NHFLA-MW3-DEC2020	NHFLA-MW4BR-SEP2020	NHFLA-MW4BR-DEC2020	NHFLA-MW4OB-SEP2020	NHFLA-MW4OB-DEC2020	NHFLA-MW5BR-SEP2020
			Sampling Date	24-Sep-20	15-Dec-20	29-Sep-20	16-Dec-20	29-Sep-20	16-Dec-20	29-Sep-20
			Tapwater RSL[2]							
Isopropylbenzene (Cumene)	98-82-8	µg/L	45	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	**3**
m,p-Xylene[3]	ARC-mpXyl	µg/L	19	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	**1.70 J**
Methyl acetate	79-20-9	µg/L	2000	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U
Methyl tert-butyl ether (MTBE)	1634-04-4	µg/L	14	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Methylcyclohexane	108-87-2	µg/L	--	**2.80**	0.500 U	**34.0**	**3.70**	**8.30**	**1.50**	**66**
Methylene chloride	75-09-2	µg/L	11	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
o-Xylene	95-47-6	µg/L	19	0.500 U	0.500 U	**7.2**	0.500 U	0.500 U	0.500 U	**50**
Styrene	100-42-5	µg/L	120	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Tetrachloroethene (PCE)	127-18-4	µg/L	4.1	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Toluene	108-88-3	µg/L	110	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	**31.0**
trans-1,2-Dichloroethene	156-60-5	µg/L	6.8	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	--	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Trichloroethene (TCE)	79-01-6	µg/L	0.28	0.500 U	0.500 U	0.500 U	0.500 U	**0.370 J**	0.500 U	0.500 U
Trichlorofluoromethane	75-69-4	µg/L	520	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Vinyl chloride	75-01-4	µg/L	0.019	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U

Notes:

1. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

2. Screening levels are the USEPA RSLs for tapwater. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

3. Screening level is for m-xylenes.

Detected concentrations are bolded.

Detected concentrations exceeding the tapwater RSLs are bolded and shaded yellow.

Acronymns and Abbreviations:
-- = not available or not analyzed.
CASRN = Chemical Abstracts Service Registry Number.
LOD = limit of detection.
RSL = Regional Screening Level.
µg/L = micrograms per liter.

Qualifier Definitions:
U = The analyte was not detected and was reported as less than the LOD.
J = The reported result was an estimated value.
UJ = The analyte was not detected and was reported as less than the LOD as an estimated

References

USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-4a
Groundwater Analytical Results - VOCs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW5OB		NHFLA-MW6		NHFLA-MW7BR		
			Sample ID[1]	NHFLA-MW5OB-SEP2020	NHFLA-MW-5OB-DEC2020	NHFLA-MW6-SEP2020	NHFLA-MW6-DEC2020	NHFLA-DUP13-SEP2020 (FD)	NHFLA-MW7BR-SEP2020	NHFLA-MW7BR-DEC2020
			Sampling Date	23-Sep-20	16-Dec-20	24-Sep-20	18-Dec-20	30-Sep-20	30-Sep-20	17-Dec-20
			Tapwater RSL[2]							
Volatile Organic Compounds										
1,1,1-Trichloroethane	71-55-6	µg/L	800	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	0.076	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	µg/L	1000	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,1,2-Trichloroethane	79-00-5	µg/L	0.041	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,1-Dichloroethane	75-34-3	µg/L	2.8	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,1-Dichloroethene	75-35-4	µg/L	28	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2,3-Trichlorobenzene	87-61-6	µg/L	0.7	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2,4-Trichlorobenzene	120-82-1	µg/L	0.4	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.00033	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.0075	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dichlorobenzene	95-50-1	µg/L	30	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dichloroethane	107-06-2	µg/L	0.17	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dichloropropane	78-87-5	µg/L	0.82	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,3-Dichlorobenzene	541-73-1	µg/L	--	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,4-Dichlorobenzene	106-46-7	µg/L	0.48	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
2-Butanone (MEK)	78-93-3	µg/L	560	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
2-Hexanone	591-78-6	µg/L	3.8	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	630	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
Acetone	67-64-1	µg/L	1400	2.50 U	2.50 U	5.00 U	2.50 U	2.50 U	2.50 U	2.50 U
Benzene	71-43-2	µg/L	0.46	**5.10 J**	**2.8**	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Bromochloromethane	74-97-5	µg/L	8.3	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Bromodichloromethane	75-27-4	µg/L	0.13	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Bromoform	75-25-2	µg/L	3.3	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Bromomethane	74-83-9	µg/L	0.75	1.00 UJ	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Carbon disulfide	75-15-0	µg/L	81	**0.470 J**	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Carbon tetrachloride	56-23-5	µg/L	0.46	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Chlorobenzene	108-90-7	µg/L	7.8	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Chloroethane	75-00-3	µg/L	2100	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Chloroform	67-66-3	µg/L	0.22	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Chloromethane	74-87-3	µg/L	19	1.00 U	**1.40 J**	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
cis-1,2-Dichloroethene	156-59-2	µg/L	3.6	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
cis-1,3-Dichloropropene	10061-01-5	µg/L	--	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Cyclohexane	110-82-7	µg/L	1300	**20.0 J**	**7.7**	**2.10**	0.500 U	**2.00**	**2.00**	0.500 U
Dibromochloromethane	124-48-1	µg/L	0.87	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Dichlorodifluoromethane	75-71-8	µg/L	20	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Ethylbenzene	100-41-4	µg/L	1.5	**3.10 J**	**1.1**	0.500 U	0.500 U	**0.370 J**	**0.350 J**	0.500 U

Table 4-4a
Groundwater Analytical Results - VOCs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW5OB		NHFLA-MW6		NHFLA-MW7BR		
			Sample ID[1]	NHFLA-MW5OB-SEP2020	NHFLA-MW-5OB-DEC2020	NHFLA-MW6-SEP2020	NHFLA-MW6-DEC2020	NHFLA-DUP13-SEP2020 (FD)	NHFLA-MW7BR-SEP2020	NHFLA-MW7BR-DEC2020
			Sampling Date	23-Sep-20	16-Dec-20	24-Sep-20	18-Dec-20	30-Sep-20	30-Sep-20	17-Dec-20
			Tapwater RSL[2]							
Isopropylbenzene (Cumene)	98-82-8	µg/L	45	**0.580 J**	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
m,p-Xylene[3]	ARC-mpXyl	µg/L	19	**7.50 J**	**2.5**	1.00 U	1.00 U	**1.10 J**	**1.00 J**	1.00 U
Methyl acetate	79-20-9	µg/L	2000	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U
Methyl tert-butyl ether (MTBE)	1634-04-4	µg/L	14	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Methylcyclohexane	108-87-2	µg/L	--	**18.0 J**	**5.8**	**5.60**	0.500 U	**2.30**	**2.40**	**0.550**
Methylene chloride	75-09-2	µg/L	11	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
o-Xylene	95-47-6	µg/L	19	**5.10 J**	**0.740 J**	0.500 U	0.500 U	**0.390 J**	**0.340 J**	0.500 U
Styrene	100-42-5	µg/L	120	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Tetrachloroethene (PCE)	127-18-4	µg/L	4.1	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Toluene	108-88-3	µg/L	110	**12.0 J**	**3.80**	0.500 U	0.500 U	1.00 U	1.00 U	0.500 U
trans-1,2-Dichloroethene	156-60-5	µg/L	6.8	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	--	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Trichloroethene (TCE)	79-01-6	µg/L	0.28	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Trichlorofluoromethane	75-69-4	µg/L	520	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Vinyl chloride	75-01-4	µg/L	0.019	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U

Notes:

1. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

2. Screening levels are the USEPA RSLs for tapwater. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

3. Screening level is for m-xylenes.

Detected concentrations are bolded.

Detected concentrations exceeding the tapwater RSLs are bolded and shaded yellow.

Acronymns and Abbreviations:
-- = not available or not analyzed.
CASRN = Chemical Abstracts Service Registry Number.
LOD = limit of detection.
RSL = Regional Screening Level.
µg/L = micrograms per liter.

Qualifier Definitions:
U = The analyte was not detected and was reported as less than the LOD.
J = The reported result was an estimated value.
UJ = The analyte was not detected and was reported as less than the LOD as an estimated

References

USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-4a
Groundwater Analytical Results - VOCs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW7OB			NHFLA-MW8		NHFLA-MW9BR	
			Sample ID[1]	NHFLA-MW7OB-SEP2020	NHFLA-DUP14-DEC2020 (FD)	NHFLA-MW7OB-DEC2020	NHFLA-MW8-SEP2020	NHFLA-MW8-DEC2020	NHFLA-MW9BR-SEP2020	NHFLA-MW9BR-DEC2020
			Sampling Date	29-Sep-20	17-Dec-20	17-Dec-20	25-Sep-20	17-Dec-20	25-Sep-20	17-Dec-20
			Tapwater RSL[2]							
Volatile Organic Compounds										
1,1,1-Trichloroethane	71-55-6	µg/L	800	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	0.076	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	µg/L	1000	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,1,2-Trichloroethane	79-00-5	µg/L	0.041	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,1-Dichloroethane	75-34-3	µg/L	2.8	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,1-Dichloroethene	75-35-4	µg/L	28	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2,3-Trichlorobenzene	87-61-6	µg/L	0.7	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2,4-Trichlorobenzene	120-82-1	µg/L	0.4	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.00033	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.0075	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dichlorobenzene	95-50-1	µg/L	30	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dichloroethane	107-06-2	µg/L	0.17	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dichloropropane	78-87-5	µg/L	0.82	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,3-Dichlorobenzene	541-73-1	µg/L	--	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,4-Dichlorobenzene	106-46-7	µg/L	0.48	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
2-Butanone (MEK)	78-93-3	µg/L	560	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
2-Hexanone	591-78-6	µg/L	3.8	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	630	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
Acetone	67-64-1	µg/L	1400	5.00 U	2.50 U	2.50 U	2.50 U	2.50 U	**4.10 J**	5.00 U
Benzene	71-43-2	µg/L	0.46	**0.330 J**	0.500 U	0.500 U	0.500 U	0.500 U	**11.0 J**	**11.0**
Bromochloromethane	74-97-5	µg/L	8.3	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Bromodichloromethane	75-27-4	µg/L	0.13	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Bromoform	75-25-2	µg/L	3.3	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Bromomethane	74-83-9	µg/L	0.75	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Carbon disulfide	75-15-0	µg/L	81	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Carbon tetrachloride	56-23-5	µg/L	0.46	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Chlorobenzene	108-90-7	µg/L	7.8	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Chloroethane	75-00-3	µg/L	2100	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Chloroform	67-66-3	µg/L	0.22	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Chloromethane	74-87-3	µg/L	19	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	**6.00**
cis-1,2-Dichloroethene	156-59-2	µg/L	3.6	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
cis-1,3-Dichloropropene	10061-01-5	µg/L	--	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Cyclohexane	110-82-7	µg/L	1300	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	**11.0 J**	**9.00**
Dibromochloromethane	124-48-1	µg/L	0.87	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Dichlorodifluoromethane	75-71-8	µg/L	20	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Ethylbenzene	100-41-4	µg/L	1.5	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	**2.90 J**	**1.90**

Table 4-4a
Groundwater Analytical Results - VOCs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW7OB			NHFLA-MW8		NHFLA-MW9BR	
			Sample ID[1]	NHFLA-MW7OB-SEP2020	NHFLA-DUP14-DEC2020 (FD)	NHFLA-MW7OB-DEC2020	NHFLA-MW8-SEP2020	NHFLA-MW8-DEC2020	NHFLA-MW9BR-SEP2020	NHFLA-MW9BR-DEC2020
			Sampling Date	29-Sep-20	17-Dec-20	17-Dec-20	25-Sep-20	17-Dec-20	25-Sep-20	17-Dec-20
			Tapwater RSL[2]							
Isopropylbenzene (Cumene)	98-82-8	µg/L	45	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	**0.270 J**	0.500 U
m,p-Xylene[3]	ARC-mpXyl	µg/L	19	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	**7.10 J**	**5.30**
Methyl acetate	79-20-9	µg/L	2000	0.750 UJ	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U
Methyl tert-butyl ether (MTBE)	1634-04-4	µg/L	14	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Methylcyclohexane	108-87-2	µg/L	--	**0.710 J**	0.500 U	0.500 U	0.500 U	0.500 U	**4.30 J**	**4.30**
Methylene chloride	75-09-2	µg/L	11	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
o-Xylene	95-47-6	µg/L	19	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	**2.60 J**	**1.80**
Styrene	100-42-5	µg/L	120	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Tetrachloroethene (PCE)	127-18-4	µg/L	4.1	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Toluene	108-88-3	µg/L	110	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	**13.0 J**	**11.0**
trans-1,2-Dichloroethene	156-60-5	µg/L	6.8	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	--	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Trichloroethene (TCE)	79-01-6	µg/L	0.28	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Trichlorofluoromethane	75-69-4	µg/L	520	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Vinyl chloride	75-01-4	µg/L	0.019	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U

Notes:

1. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

2. Screening levels are the USEPA RSLs for tapwater. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

3. Screening level is for m-xylenes.

Detected concentrations are bolded.

Detected concentrations exceeding the tapwater RSLs are bolded and shaded yellow.

Acronymns and Abbreviations:
-- = not available or not analyzed.
CASRN = Chemical Abstracts Service Registry Number.
LOD = limit of detection.
RSL = Regional Screening Level.
µg/L = micrograms per liter.

Qualifier Definitions:
U = The analyte was not detected and was reported as less than the LOD.
J = The reported result was an estimated value.
UJ = The analyte was not detected and was reported as less than the LOD as an estimated

References

USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-4a
Groundwater Analytical Results - VOCs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW9OB			NHFLA-MW10		NHFLA-MW11	
			Sample ID[1]	NHFLA-MW9OB-SEP2020	NHFLA-DUP15-DEC2020 (FD)	NHFLA-MW9OB-DEC2020	NHFLA-MW10-SEP2020	NHFLA-MW10-DEC2020	NHFLA-MW11-SEP2020	NHFLA-MW11-DEC2020
			Sampling Date	25-Sep-20	17-Dec-20	17-Dec-20	24-Sep-20	15-Dec-20	25-Sep-20	15-Dec-20
			Tapwater RSL[2]							
Volatile Organic Compounds										
1,1,1-Trichloroethane	71-55-6	µg/L	800	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	0.076	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	µg/L	1000	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,1,2-Trichloroethane	79-00-5	µg/L	0.041	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,1-Dichloroethane	75-34-3	µg/L	2.8	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,1-Dichloroethene	75-35-4	µg/L	28	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2,3-Trichlorobenzene	87-61-6	µg/L	0.7	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2,4-Trichlorobenzene	120-82-1	µg/L	0.4	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.00033	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.0075	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dichlorobenzene	95-50-1	µg/L	30	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dichloroethane	107-06-2	µg/L	0.17	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dichloropropane	78-87-5	µg/L	0.82	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,3-Dichlorobenzene	541-73-1	µg/L	--	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,4-Dichlorobenzene	106-46-7	µg/L	0.48	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
2-Butanone (MEK)	78-93-3	µg/L	560	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
2-Hexanone	591-78-6	µg/L	3.8	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	630	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
Acetone	67-64-1	µg/L	1400	2.50 U	**5.30 J**	2.50 U	2.50 U	2.50 U	**3.60 J**	2.50 U
Benzene	71-43-2	µg/L	0.46	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Bromochloromethane	74-97-5	µg/L	8.3	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Bromodichloromethane	75-27-4	µg/L	0.13	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Bromoform	75-25-2	µg/L	3.3	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Bromomethane	74-83-9	µg/L	0.75	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Carbon disulfide	75-15-0	µg/L	81	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Carbon tetrachloride	56-23-5	µg/L	0.46	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Chlorobenzene	108-90-7	µg/L	7.8	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Chloroethane	75-00-3	µg/L	2100	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Chloroform	67-66-3	µg/L	0.22	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Chloromethane	74-87-3	µg/L	19	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
cis-1,2-Dichloroethene	156-59-2	µg/L	3.6	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
cis-1,3-Dichloropropene	10061-01-5	µg/L	--	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Cyclohexane	110-82-7	µg/L	1300	0.500 U	**0.850**	0.500 U	**0.650 J**	0.500 U	**2.40 J**	0.500 U
Dibromochloromethane	124-48-1	µg/L	0.87	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Dichlorodifluoromethane	75-71-8	µg/L	20	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Ethylbenzene	100-41-4	µg/L	1.5	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U

Table 4-4a
Groundwater Analytical Results - VOCs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW9OB			NHFLA-MW10		NHFLA-MW11	
			Sample ID[1]	NHFLA-MW9OB-SEP2020	NHFLA-DUP15-DEC2020 (FD)	NHFLA-MW9OB-DEC2020	NHFLA-MW10-SEP2020	NHFLA-MW10-DEC2020	NHFLA-MW11-SEP2020	NHFLA-MW11-DEC2020
			Sampling Date	25-Sep-20	17-Dec-20	17-Dec-20	24-Sep-20	15-Dec-20	25-Sep-20	15-Dec-20
			Tapwater RSL[2]							
Isopropylbenzene (Cumene)	98-82-8	µg/L	45	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
m,p-Xylene[3]	ARC-mpXyl	µg/L	19	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Methyl acetate	79-20-9	µg/L	2000	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U
Methyl tert-butyl ether (MTBE)	1634-04-4	µg/L	14	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Methylcyclohexane	108-87-2	µg/L	--	0.500 U	**2.50 J**	0.500 UJ	**4.00**	0.500 U	**6.10 J**	0.500 U
Methylene chloride	75-09-2	µg/L	11	**2.00 J**	2.50 U	2.50 U	2.50 U	2.50 U	**1.70 J**	2.50 U
o-Xylene	95-47-6	µg/L	19	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Styrene	100-42-5	µg/L	120	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Tetrachloroethene (PCE)	127-18-4	µg/L	4.1	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Toluene	108-88-3	µg/L	110	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
trans-1,2-Dichloroethene	156-60-5	µg/L	6.8	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	--	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Trichloroethene (TCE)	79-01-6	µg/L	0.28	0.500 U	**0.410**	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Trichlorofluoromethane	75-69-4	µg/L	520	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Vinyl chloride	75-01-4	µg/L	0.019	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U

Notes:

1. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

2. Screening levels are the USEPA RSLs for tapwater. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

3. Screening level is for m-xylenes.

Detected concentrations are bolded.

Detected concentrations exceeding the tapwater RSLs are bolded and shaded yellow.

Acronymns and Abbreviations:
-- = not available or not analyzed.
CASRN = Chemical Abstracts Service Registry Number.
LOD = limit of detection.
RSL = Regional Screening Level.
µg/L = micrograms per liter.

Qualifier Definitions:
U = The analyte was not detected and was reported as less than the LOD.
J = The reported result was an estimated value.
UJ = The analyte was not detected and was reported as less than the LOD as an estimated

References

USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-4a
Groundwater Analytical Results - VOCs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW12		NHFLA-MW13		NHFLA-MW14		
			Sample ID[1]	NHFLA-MW12-SEP2020	NHFLA-MW12-DEC2020	NHFLA-MW13-SEP2020	NHFLA-MW13-DEC2020	NHFLA-DUP12-SEP2020 (FD)	NHFLA-MW14-SEP2020	NHFLA-MW14-DEC2020
			Sampling Date	24-Sep-20	15-Dec-20	24-Sep-20	18-Dec-20	24-Sep-20	24-Sep-20	16-Dec-20
			Tapwater RSL[2]							
Volatile Organic Compounds										
1,1,1-Trichloroethane	71-55-6	µg/L	800	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	0.076	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	µg/L	1000	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,1,2-Trichloroethane	79-00-5	µg/L	0.041	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,1-Dichloroethane	75-34-3	µg/L	2.8	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,1-Dichloroethene	75-35-4	µg/L	28	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2,3-Trichlorobenzene	87-61-6	µg/L	0.7	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2,4-Trichlorobenzene	120-82-1	µg/L	0.4	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.00033	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.0075	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dichlorobenzene	95-50-1	µg/L	30	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dichloroethane	107-06-2	µg/L	0.17	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dichloropropane	78-87-5	µg/L	0.82	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,3-Dichlorobenzene	541-73-1	µg/L	--	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
1,4-Dichlorobenzene	106-46-7	µg/L	0.48	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
2-Butanone (MEK)	78-93-3	µg/L	560	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
2-Hexanone	591-78-6	µg/L	3.8	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	630	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
Acetone	67-64-1	µg/L	1400	5.00 U	2.50 U	5.00 U	2.50 U	5.00 UJ	5.00 U	2.50 U
Benzene	71-43-2	µg/L	0.46	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Bromochloromethane	74-97-5	µg/L	8.3	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Bromodichloromethane	75-27-4	µg/L	0.13	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Bromoform	75-25-2	µg/L	3.3	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Bromomethane	74-83-9	µg/L	0.75	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Carbon disulfide	75-15-0	µg/L	81	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Carbon tetrachloride	56-23-5	µg/L	0.46	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Chlorobenzene	108-90-7	µg/L	7.8	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Chloroethane	75-00-3	µg/L	2100	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Chloroform	67-66-3	µg/L	0.22	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Chloromethane	74-87-3	µg/L	19	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
cis-1,2-Dichloroethene	156-59-2	µg/L	3.6	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
cis-1,3-Dichloropropene	10061-01-5	µg/L	--	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Cyclohexane	110-82-7	µg/L	1300	0.500 U	0.500 U	0.500 U	0.500 U	**5.70**	**5.40**	0.500 U
Dibromochloromethane	124-48-1	µg/L	0.87	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Dichlorodifluoromethane	75-71-8	µg/L	20	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Ethylbenzene	100-41-4	µg/L	1.5	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	**0.300 J**	0.500 U

Table 4-4a
Groundwater Analytical Results - VOCs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW12		NHFLA-MW13		NHFLA-MW14		
			Sample ID[1]	NHFLA-MW12-SEP2020	NHFLA-MW12-DEC2020	NHFLA-MW13-SEP2020	NHFLA-MW13-DEC2020	NHFLA-DUP12-SEP2020 (FD)	NHFLA-MW14-SEP2020	NHFLA-MW14-DEC2020
			Sampling Date	24-Sep-20	15-Dec-20	24-Sep-20	18-Dec-20	24-Sep-20	24-Sep-20	16-Dec-20
			Tapwater RSL[2]							
Isopropylbenzene (Cumene)	98-82-8	µg/L	45	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
m,p-Xylene[3]	ARC-mpXyl	µg/L	19	1.00 U	1.00 U	1.00 U	1.00 U	**0.750 J**	**0.710 J**	1.00 U
Methyl acetate	79-20-9	µg/L	2000	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U	0.750 U
Methyl tert-butyl ether (MTBE)	1634-04-4	µg/L	14	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Methylcyclohexane	108-87-2	µg/L	--	0.500 U	0.500 U	0.500 U	0.500 U	**9.00**	**8.40**	**0.910 J**
Methylene chloride	75-09-2	µg/L	11	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U	2.50 U
o-Xylene	95-47-6	µg/L	19	0.500 U	0.500 U	0.500 U	0.500 U	**0.840 J**	**0.750 J**	0.500 U
Styrene	100-42-5	µg/L	120	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Tetrachloroethene (PCE)	127-18-4	µg/L	4.1	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Toluene	108-88-3	µg/L	110	0.500 U	0.500 U	0.500 U	0.500 U	0.500 UJ	0.500 U	0.500 U
trans-1,2-Dichloroethene	156-60-5	µg/L	6.8	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	--	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Trichloroethene (TCE)	79-01-6	µg/L	0.28	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Trichlorofluoromethane	75-69-4	µg/L	520	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Vinyl chloride	75-01-4	µg/L	0.019	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U

Notes:

1. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

2. Screening levels are the USEPA RSLs for tapwater. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

3. Screening level is for m-xylenes.

Detected concentrations are bolded.

Detected concentrations exceeding the tapwater RSLs are bolded and shaded yellow.

Acronymns and Abbreviations:
-- = not available or not analyzed.
CASRN = Chemical Abstracts Service Registry Number.
LOD = limit of detection.
RSL = Regional Screening Level.
µg/L = micrograms per liter.

Qualifier Definitions:
U = The analyte was not detected and was reported as less than the LOD.
J = The reported result was an estimated value.
UJ = The analyte was not detected and was reported as less than the LOD as an estimated

References

USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-4a
Groundwater Analytical Results - VOCs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW15		NHFLA-MW16 (upgradient)	
			Sample ID[1]	NHFLA-MW15-SEP2020	NHFLA-MW15-DEC2020	NHFLA-MW16-SEP2020	NHFLA-MW16-DEC2020
			Sampling Date	25-Sep-20	17-Dec-20	24-Sep-20	15-Dec-20
			Tapwater RSL[2]				
Volatile Organic Compounds							
1,1,1-Trichloroethane	71-55-6	µg/L	800	0.500 U	0.500 U	0.500 U	0.500 U
1,1,2,2-Tetrachloroethane	79-34-5	µg/L	0.076	0.500 U	0.500 U	0.500 U	0.500 U
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	µg/L	1000	0.500 U	0.500 U	0.500 U	0.500 U
1,1,2-Trichloroethane	79-00-5	µg/L	0.041	0.500 U	0.500 U	0.500 U	0.500 U
1,1-Dichloroethane	75-34-3	µg/L	2.8	0.500 U	0.500 U	0.500 U	0.500 U
1,1-Dichloroethene	75-35-4	µg/L	28	0.500 U	0.500 U	0.500 U	0.500 U
1,2,3-Trichlorobenzene	87-61-6	µg/L	0.7	0.500 U	0.500 U	0.500 U	0.500 U
1,2,4-Trichlorobenzene	120-82-1	µg/L	0.4	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dibromo-3-chloropropane	96-12-8	µg/L	0.00033	0.750 U	0.750 U	0.750 U	0.750 U
1,2-Dibromoethane (EDB)	106-93-4	µg/L	0.0075	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dichlorobenzene	95-50-1	µg/L	30	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dichloroethane	107-06-2	µg/L	0.17	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dichloropropane	78-87-5	µg/L	0.82	0.500 U	0.500 U	0.500 U	0.500 U
1,3-Dichlorobenzene	541-73-1	µg/L	--	0.500 U	0.500 U	0.500 U	0.500 U
1,4-Dichlorobenzene	106-46-7	µg/L	0.48	0.500 U	0.500 U	0.500 U	0.500 U
2-Butanone (MEK)	78-93-3	µg/L	560	2.50 U	2.50 U	2.50 U	2.50 U
2-Hexanone	591-78-6	µg/L	3.8	2.50 U	2.50 U	2.50 U	2.50 U
4-Methyl-2-pentanone (MIBK)	108-10-1	µg/L	630	2.50 U	2.50 U	2.50 U	2.50 U
Acetone	67-64-1	µg/L	1400	**2.90 J**	2.50 U	**11.0 J**	**11.0 J**
Benzene	71-43-2	µg/L	0.46	0.500 U	0.500 U	0.500 U	0.500 U
Bromochloromethane	74-97-5	µg/L	8.3	0.500 U	0.500 U	0.500 U	0.500 U
Bromodichloromethane	75-27-4	µg/L	0.13	0.500 U	0.500 U	0.500 U	0.500 U
Bromoform	75-25-2	µg/L	3.3	0.500 U	0.500 U	0.500 U	0.500 U
Bromomethane	74-83-9	µg/L	0.75	1.00 U	1.00 U	1.00 U	1.00 U
Carbon disulfide	75-15-0	µg/L	81	0.500 U	0.500 U	0.500 U	0.500 U
Carbon tetrachloride	56-23-5	µg/L	0.46	0.500 U	0.500 U	0.500 U	0.500 U
Chlorobenzene	108-90-7	µg/L	7.8	0.500 U	0.500 U	0.500 U	0.500 U
Chloroethane	75-00-3	µg/L	2100	1.00 U	1.00 U	1.00 U	1.00 U
Chloroform	67-66-3	µg/L	0.22	0.500 U	0.500 U	0.500 U	0.500 U
Chloromethane	74-87-3	µg/L	19	1.00 U	1.00 U	1.00 U	1.00 U
cis-1,2-Dichloroethene	156-59-2	µg/L	3.6	0.500 U	0.500 U	0.500 U	0.500 U
cis-1,3-Dichloropropene	10061-01-5	µg/L	--	0.500 U	0.500 U	0.500 U	0.500 U
Cyclohexane	110-82-7	µg/L	1300	0.500 U	0.500 U	0.500 U	0.500 U
Dibromochloromethane	124-48-1	µg/L	0.87	0.500 U	0.500 U	0.500 U	0.500 U
Dichlorodifluoromethane	75-71-8	µg/L	20	1.00 U	1.00 U	1.00 U	1.00 U
Ethylbenzene	100-41-4	µg/L	1.5	0.500 U	0.500 U	0.500 U	0.500 U

Table 4-4a
Groundwater Analytical Results - VOCs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW15		NHFLA-MW16 (upgradient)	
			Sample ID[1]	NHFLA-MW15-SEP2020	NHFLA-MW15-DEC2020	NHFLA-MW16-SEP2020	NHFLA-MW16-DEC2020
			Sampling Date	25-Sep-20	17-Dec-20	24-Sep-20	15-Dec-20
			Tapwater RSL[2]				
Isopropylbenzene (Cumene)	98-82-8	µg/L	45	0.500 U	0.500 U	0.500 U	0.500 U
m,p-Xylene[3]	ARC-mpXyl	µg/L	19	1.00 U	1.00 U	1.00 U	1.00 U
Methyl acetate	79-20-9	µg/L	2000	0.750 U	0.750 U	0.750 U	0.750 U
Methyl tert-butyl ether (MTBE)	1634-04-4	µg/L	14	0.500 U	0.500 U	0.500 U	0.500 U
Methylcyclohexane	108-87-2	µg/L	--	**0.780 J**	0.500 U	0.500 U	0.500 U
Methylene chloride	75-09-2	µg/L	11	**1.90 J**	2.50 U	2.50 U	2.50 U
o-Xylene	95-47-6	µg/L	19	0.500 U	0.500 U	0.500 U	0.500 U
Styrene	100-42-5	µg/L	120	0.500 U	0.500 U	0.500 U	0.500 U
Tetrachloroethene (PCE)	127-18-4	µg/L	4.1	0.500 U	0.500 U	0.500 U	0.500 U
Toluene	108-88-3	µg/L	110	0.500 U	0.500 U	0.500 U	0.500 U
trans-1,2-Dichloroethene	156-60-5	µg/L	6.8	0.500 U	0.500 U	0.500 U	0.500 U
trans-1,3-Dichloropropene	10061-02-6	µg/L	--	0.500 U	0.500 U	0.500 U	0.500 U
Trichloroethene (TCE)	79-01-6	µg/L	0.28	0.500 U	0.500 U	0.500 U	0.500 U
Trichlorofluoromethane	75-69-4	µg/L	520	1.00 U	1.00 U	1.00 U	1.00 U
Vinyl chloride	75-01-4	µg/L	0.019	1.00 U	1.00 U	1.00 U	1.00 U

Notes:

1. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

2. Screening levels are the USEPA RSLs for tapwater. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

3. Screening level is for m-xylenes.

Detected concentrations are bolded.

Detected concentrations exceeding the tapwater RSLs are bolded and shaded yellow.

Acronymns and Abbreviations:
-- = not available or not analyzed.
CASRN = Chemical Abstracts Service Registry Number.
LOD = limit of detection.
RSL = Regional Screening Level.
µg/L = micrograms per liter.

Qualifier Definitions:
U = The analyte was not detected and was reported as less than the LOD.
J = The reported result was an estimated value.
UJ = The analyte was not detected and was reported as less than the LOD as an estimated

References

USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-4b
Groundwater Analytical Results - SVOCs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW1BR		NHFLA-MW1OB		NHFLA-MW2		
			Sample ID[1]	NHFLA-MW1BR-SEP2020	NHFLA-MW-1BR-DEC2020	NHFLA-MW1OB-SEP2020	NHFLA-MW-1OB-DEC2020	NHFLA-DUP11-SEP2020 (FD)	NHFLA-MW2-SEP2020	NHFLA-MW2-DEC2020
			Sampling Date	30-Sep-20	16-Dec-20	30-Sep-20	16-Dec-20	23-Sep-20	23-Sep-20	15-Dec-20
			Tapwater RSL[2]							
Semi-Volatile Organic Compounds										
1,2,4,5-Tetrachlorobenzene	95-94-3	µg/L	0.17	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	7.00 UJ	7.50 U
1,4-Dioxane (p-Dioxane)	123-91-1	µg/L	0.46	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	7.00 U	7.50 U
2,2'-Oxybis(1-chloropropane)	108-60-1	µg/L	71	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	7.00 UJ	7.50 U
2,3,4,6-Tetrachlorophenol	58-90-2	µg/L	24	7.00 U	R	7.00 U	R	R	R	R
2,4,5-Trichlorophenol	95-95-4	µg/L	120	18.0 U	R	18.0 U	R	R	R	R
2,4,6-Trichlorophenol	88-06-2	µg/L	1.2	7.00 U	R	7.00 U	R	R	R	R
2,4-Dichlorophenol	120-83-2	µg/L	4.6	7.00 U	R	7.00 U	R	R	R	7.50 UJ
2,4-Dimethylphenol	105-67-9	µg/L	36	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	7.00 UJ	7.50 U
2,4-Dinitrophenol	51-28-5	µg/L	3.9	18.0 U	R	18.0 U	R	R	R	R
2,4-Dinitrotoluene	121-14-2	µg/L	0.24	7.00 U	R	7.00 U	R	7.00 U	7.00 U	7.50 U
2,6-Dinitrotoluene	606-20-2	µg/L	0.049	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	7.00 UJ	7.50 U
2-Chloronaphthalene	91-58-7	µg/L	75	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	7.00 UJ	7.50 U
2-Chlorophenol	95-57-8	µg/L	9.1	7.00 U	R	7.00 U	R	7.00 UJ	7.00 UJ	7.50 UJ
2-Methylnaphthalene	91-57-6	µg/L	3.6	**0.430 J**	**0.160 J**	**0.250 J**	0.100 U	**0.120 J**	**0.110 J**	0.100 U
2-Methylphenol (o-Cresol)	95-48-7	µg/L	93	7.00 U	7.10 UJ	7.00 U	7.60 UJ	7.00 U	7.00 UJ	7.50 U
2-Nitroaniline	88-74-4	µg/L	19	18.0 U	18.0 U	18.0 U	19.0 U	18.0 U	18.0 U	19.0 U
2-Nitrophenol	88-75-5	µg/L	--	7.00 U	R	7.00 U	R	7.00 UJ	7.00 UJ	7.50 UJ
3,3'-Dichlorobenzidine	91-94-1	µg/L	0.13	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	7.00 UJ	7.50 U
3-Nitroaniline	99-09-2	µg/L	--	18.0 U	18.0 U	18.0 U	19.0 U	18.0 U	18.0 U	19.0 U
4,6-Dinitro-2-methylphenol	534-52-1	µg/L	0.15	18.0 U	R	18.0 U	R	R	R	R
4-Bromophenyl phenyl ether	101-55-3	µg/L	--	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	7.00 UJ	7.50 U
4-Chloro-3-methylphenol	59-50-7	µg/L	140	7.00 U	7.10 UJ	7.00 U	7.60 UJ	7.00 U	7.00 UJ	7.50 U
4-Chloroaniline	106-47-8	µg/L	0.37	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	7.00 UJ	7.50 U
4-Chlorophenyl phenyl ether	7005-72-3	µg/L	--	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	7.00 UJ	7.50 U
4-Nitroaniline	100-01-6	µg/L	3.8	18.0 U	18.0 U	18.0 U	19.0 U	18.0 U	18.0 U	19.0 U
4-Nitrophenol	100-02-7	µg/L	--	18.0 U	R	18.0 U	R	R	R	R
Acenaphthene	83-32-9	µg/L	53	0.0940 U	0.0940 U	0.0930 U	0.100 U	0.0930 U	0.0930 UJ	0.100 U
Acenaphthylene	208-96-8	µg/L	--	0.0940 U	0.0940 U	0.0930 U	0.100 U	0.0930 U	0.0930 UJ	0.100 U
Acetophenone	98-86-2	µg/L	190	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	7.00 UJ	7.50 U
Anthracene	120-12-7	µg/L	180	0.0940 U	0.0940 U	0.0930 U	0.100 U	0.0930 U	0.0930 UJ	0.100 U
Atrazine	1912-24-9	µg/L	0.3	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	7.00 UJ	7.50 U
Benzaldehyde	100-52-7	µg/L	19	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	7.00 UJ	7.50 U
Benzo(a)anthracene	56-55-3	µg/L	0.03	0.0940 U	0.0940 U	0.0930 U	0.100 U	0.0930 U	0.0930 UJ	0.100 U
Benzo(a)pyrene	50-32-8	µg/L	0.025	0.0940 U	0.0940 U	0.0930 U	0.100 U	0.0930 U	0.0930 UJ	0.100 U
Benzo(b)fluoranthene	205-99-2	µg/L	0.25	0.0940 U	0.0940 U	0.0930 U	0.100 U	0.0930 U	0.0930 UJ	0.100 U
Benzo(g,h,i)perylene	191-24-2	µg/L	--	0.0940 U	0.0940 U	0.0930 U	0.100 U	0.0930 U	0.0930 UJ	0.100 U
Benzo(k)fluoranthene	207-08-9	µg/L	2.5	0.0940 U	0.0940 U	0.0930 U	0.100 U	0.0930 U	0.0930 UJ	0.100 U
Benzyl butyl phthalate	85-68-7	µg/L	16	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	7.00 UJ	7.50 U
Biphenyl (Diphenyl)	92-52-4	µg/L	0.083	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	7.00 UJ	7.50 U
Bis(2-chloroethoxy)methane	111-91-1	µg/L	5.9	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	7.00 UJ	7.50 U
Bis(2-chloroethyl) ether (2-Chloroethyl ether)	111-44-4	µg/L	0.014	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	7.00 UJ	7.50 U
Bis(2-ethylhexyl)phthalate	117-81-7	µg/L	5.6	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	7.00 UJ	7.50 U
Caprolactam	105-60-2	µg/L	990	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	R	7.50 U
Carbazole	86-74-8	µg/L	--	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	7.00 UJ	7.50 U
Chrysene	218-01-9	µg/L	25	0.0940 U	0.0940 U	0.0930 U	0.100 U	0.0930 U	0.0930 UJ	0.100 U
Cresols, m- & p-[5]	Arc-Cresols	µg/L	93	7.00 U	R	7.00 U	R	7.00 U	7.00 UJ	7.50 U
Dibenz(a,h)anthracene	53-70-3	µg/L	0.025	0.0940 U	0.0940 U	0.0930 U	0.100 U	0.0930 U	0.0930 UJ	0.100 U
Dibenzofuran	132-64-9	µg/L	0.79	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	7.00 UJ	7.50 U
Diethyl phthalate	84-66-2	µg/L	1500	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	7.00 UJ	7.50 U
Dimethyl phthalate	131-11-3	µg/L	--	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	7.00 UJ	7.50 U

Table 4-4b
Groundwater Analytical Results - SVOCs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW1BR		NHFLA-MW1OB		NHFLA-MW2		
			Sample ID[1]	NHFLA-MW1BR-SEP2020	NHFLA-MW-1BR-DEC2020	NHFLA-MW1OB-SEP2020	NHFLA-MW-1OB-DEC2020	NHFLA-DUP11-SEP2020 (FD)	NHFLA-MW2-SEP2020	NHFLA-MW2-DEC2020
			Sampling Date	30-Sep-20	16-Dec-20	30-Sep-20	16-Dec-20	23-Sep-20	23-Sep-20	15-Dec-20
			Tapwater RSL[2]							
Di-n-butyl phthalate	84-74-2	µg/L	90	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	7.00 UJ	7.50 U
di-n-Octyl phthalate	117-84-0	µg/L	20	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	7.00 UJ	7.50 U
Fluoranthene	206-44-0	µg/L	80	0.0940 U	0.0940 U	0.0930 U	0.100 U	0.0930 U	0.0930 UJ	0.100 U
Fluorene	86-73-7	µg/L	29	0.0940 U	0.0940 U	0.0930 U	0.100 U	0.0930 U	0.0930 UJ	0.100 U
Hexachlorobenzene	118-74-1	µg/L	0.0098	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	7.00 UJ	7.50 U
Hexachlorobutadiene	87-68-3	µg/L	0.14	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	7.00 UJ	7.50 U
Hexachlorocyclopentadiene	77-47-4	µg/L	0.041	7.00 U	R	7.00 U	R	7.00 U	7.00 U	7.50 U
Hexachloroethane	67-72-1	µg/L	0.33	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	7.00 UJ	7.50 U
Indeno(1,2,3-c,d)pyrene	193-39-5	µg/L	0.25	0.0940 U	0.0940 U	0.0930 U	0.100 U	0.0930 U	0.0930 UJ	0.100 U
Isophorone	78-59-1	µg/L	78	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	7.00 UJ	7.50 U
Naphthalene	91-20-3	µg/L	0.12	0.0940 U	0.0940 U	**0.33**	0.100 U	0.0930 U	0.0930 UJ	0.100 U
Nitrobenzene	98-95-3	µg/L	0.14	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	7.00 UJ	7.50 U
N-Nitrosodi-n-propylamine	621-64-7	µg/L	0.011	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	7.00 UJ	7.50 U
N-Nitrosodiphenylamine	86-30-6	µg/L	12	7.00 U	7.10 U	7.00 U	7.60 U	7.00 U	7.00 U	7.50 U
Pentachlorophenol	87-86-5	µg/L	0.041	18.0 U	R	18.0 U	R	R	R	R
Phenanthrene	85-01-8	µg/L	--	0.0940 U	0.0940 U	**0.0580 J**	0.100 U	0.0930 U	0.0930 UJ	0.100 U
Phenol	108-95-2	µg/L	580	7.00 U	R	7.00 U	R	7.00 U	7.00 U	7.50 U
Pyrene	129-00-0	µg/L	12	0.0940 U	0.0940 U	0.0930 U	0.100 U	0.0930 U	0.0930 UJ	0.100 U

Notes:

1. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

2. Screening levels are the USEPA RSLs for tapwater. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

3. Screening level is for m-cresol.

Detected concentrations are bolded.

Detected concentrations exceeding the tapwater RSLs are bolded and shaded yellow.

Acronymns and Abbreviations:
-- = not available or not analyzed.
CASRN = Chemical Abstracts Service Registry Number.
LOD = limit of detection.
RSL = Regional Screening Level.
µg/L = micrograms per liter.
mg/L = milligrams per liter.
Qualifier Definitions:
U = The analyte was not detected and was reported as less than the LOD.
J = The reported result was an estimated value.
UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.
R = The data validator flagged the data with "X" qualifiers due to significant QC deficiencies in the laboratory analysis of the samples.
The project team performed data usability assessment and recommended these data to be rejected/ are not usable ("R" qualifiers).

References

USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-4b
Groundwater Analytical Results - SVOCs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW3		NHFLA-MW4BR		NHFLA-MW4OB		NHFLA-MW5BR	NHFLA-MW5OB	
			Sample ID[1]	NHFLA-MW3-SEP2020	NHFLA-MW3-DEC2020	NHFLA-MW4BR-SEP2020	NHFLA-MW4BR-DEC2020	NHFLA-MW4OB-SEP2020	NHFLA-MW4OB-DEC2020	NHFLA-MW5BR-SEP2020	NHFLA-MW5OB-SEP2020	NHFLA-MW-5OB-DEC2020
			Sampling Date	24-Sep-20	15-Dec-20	29-Sep-20	16-Dec-20	29-Sep-20	16-Dec-20	29-Sep-20	23-Sep-20	16-Dec-20
			Tapwater RSL[2]									
Semi-Volatile Organic Compounds												
1,2,4,5-Tetrachlorobenzene	95-94-3	µg/L	0.17	7.00 U	7.10 U	8.40 UJ	7.80 U	7.20 U	7.80 U	7.20 UJ	7.00 U	7.10 U
1,4-Dioxane (p-Dioxane)	123-91-1	µg/L	0.46	7.00 U	7.10 U	8.40 UJ	7.80 U	7.20 U	7.80 U	7.20 UJ	7.00 U	7.10 U
2,2'-Oxybis(1-chloropropane)	108-60-1	µg/L	71	7.00 U	7.10 U	8.40 UJ	7.80 U	7.20 U	7.80 U	7.20 UJ	7.00 UJ	7.10 U
2,3,4,6-Tetrachlorophenol	58-90-2	µg/L	24	7.00 U	R	8.40 U	R	R	R	7.20 UJ	R	R
2,4,5-Trichlorophenol	95-95-4	µg/L	120	18.0 U	R	21.0 U	R	R	R	18.0 UJ	R	R
2,4,6-Trichlorophenol	88-06-2	µg/L	1.2	7.00 U	R	8.40 U	R	R	R	7.20 UJ	R	R
2,4-Dichlorophenol	120-83-2	µg/L	4.6	7.00 U	7.10 UJ	8.40 U	R	R	R	7.20 UJ	R	R
2,4-Dimethylphenol	105-67-9	µg/L	36	7.00 U	7.10 U	8.40 U	7.80 U	R	7.80 U	7.20 UJ	7.00 UJ	7.10 U
2,4-Dinitrophenol	51-28-5	µg/L	3.9	18.0 U	R	21.0 U	R	R	R	18.0 UJ	R	R
2,4-Dinitrotoluene	121-14-2	µg/L	0.24	7.00 U	7.10 U	8.40 UJ	R	7.20 U	R	7.20 UJ	7.00 U	R
2,6-Dinitrotoluene	606-20-2	µg/L	0.049	7.00 U	7.10 U	8.40 UJ	7.80 U	7.20 U	7.80 U	7.20 UJ	7.00 U	7.10 U
2-Chloronaphthalene	91-58-7	µg/L	75	7.00 U	7.10 U	8.40 UJ	7.80 U	7.20 U	7.80 U	7.20 UJ	7.00 U	7.10 U
2-Chlorophenol	95-57-8	µg/L	9.1	7.00 U	7.10 UJ	8.40 U	R	R	R	7.20 UJ	7.00 UJ	R
2-Methylnaphthalene	91-57-6	µg/L	3.6	0.0930 U	0.0940 U	0.110 UJ	0.100 U	**0.200 J**	0.100 U	**14**	**0.32**	**0.110 J**
2-Methylphenol (o-Cresol)	95-48-7	µg/L	93	7.00 U	7.10 U	8.40 U	7.80 UJ	R	7.80 UJ	**6.10 J**	7.00 UJ	7.10 UJ
2-Nitroaniline	88-74-4	µg/L	19	18.0 U	18.0 U	21.0 UJ	20.0 U	18.0 U	20.0 U	18.0 UJ	18.0 U	18.0 U
2-Nitrophenol	88-75-5	µg/L	--	7.00 U	7.10 UJ	8.40 U	R	R	R	7.20 UJ	7.00 UJ	R
3,3'-Dichlorobenzidine	91-94-1	µg/L	0.13	7.00 U	7.10 U	8.40 UJ	7.80 U	7.20 U	7.80 U	7.20 UJ	7.00 UJ	7.10 U
3-Nitroaniline	99-09-2	µg/L	--	18.0 U	18.0 U	21.0 UJ	20.0 U	18.0 U	20.0 U	18.0 UJ	18.0 UJ	18.0 U
4,6-Dinitro-2-methylphenol	534-52-1	µg/L	0.15	18.0 U	R	21.0 U	R	R	R	18.0 UJ	R	R
4-Bromophenyl phenyl ether	101-55-3	µg/L	--	7.00 U	7.10 U	8.40 UJ	7.80 U	7.20 U	7.80 U	7.20 UJ	7.00 U	7.10 U
4-Chloro-3-methylphenol	59-50-7	µg/L	140	7.00 U	7.10 U	8.40 U	7.80 UJ	R	7.80 UJ	7.20 UJ	7.00 UJ	7.10 UJ
4-Chloroaniline	106-47-8	µg/L	0.37	7.00 U	7.10 U	8.40 UJ	7.80 U	7.20 U	7.80 U	7.20 UJ	7.00 UJ	7.10 U
4-Chlorophenyl phenyl ether	7005-72-3	µg/L	--	7.00 U	7.10 U	8.40 UJ	7.80 U	7.20 U	7.80 U	7.20 UJ	7.00 U	7.10 U
4-Nitroaniline	100-01-6	µg/L	3.8	18.0 U	18.0 U	21.0 UJ	20.0 U	18.0 U	20.0 U	18.0 UJ	18.0 UJ	18.0 U
4-Nitrophenol	100-02-7	µg/L	--	18.0 U	R	21.0 U	R	R	R	18.0 UJ	R	R
Acenaphthene	83-32-9	µg/L	53	0.0930 U	0.0940 U	0.110 UJ	0.100 U	0.0960 U	0.100 U	0.0960 UJ	0.0930 U	0.0940 U
Acenaphthylene	208-96-8	µg/L	--	0.0930 U	0.0940 U	0.110 UJ	0.100 U	0.0960 U	0.100 U	0.0960 UJ	0.0930 U	0.0940 U
Acetophenone	98-86-2	µg/L	190	7.00 U	7.10 U	8.40 UJ	7.80 U	7.20 U	7.80 U	7.20 UJ	7.00 U	7.10 U
Anthracene	120-12-7	µg/L	180	0.0930 U	0.0940 U	**0.130 J**	0.100 U	0.0960 U	0.100 U	**0.620 J**	0.0930 U	0.0940 U
Atrazine	1912-24-9	µg/L	0.3	7.00 U	7.10 U	8.40 UJ	7.80 U	7.20 U	7.80 U	7.20 UJ	7.00 U	7.10 U
Benzaldehyde	100-52-7	µg/L	19	7.00 U	7.10 U	8.40 UJ	7.80 U	7.20 U	7.80 U	7.20 UJ	7.00 U	7.10 U
Benzo(a)anthracene	56-55-3	µg/L	0.03	0.0930 U	0.0940 U	0.110 UJ	**0.0870 J**	0.0960 U	0.100 U	**0.150 J**	0.0930 U	0.0940 U
Benzo(a)pyrene	50-32-8	µg/L	0.025	0.0930 U	0.0940 U	0.110 UJ	**0.0820 J**	0.0960 U	0.100 U	**0.0730 J**	0.0930 U	0.0940 U
Benzo(b)fluoranthene	205-99-2	µg/L	0.25	0.0930 U	0.0940 U	0.110 UJ	0.100 U	0.0960 U	0.100 U	0.0960 UJ	0.0930 U	0.0940 U
Benzo(g,h,i)perylene	191-24-2	µg/L	--	0.0930 U	0.0940 U	0.110 UJ	0.100 U	0.0960 U	0.100 U	**0.120 J**	0.0930 U	0.0940 U
Benzo(k)fluoranthene	207-08-9	µg/L	2.5	0.0930 U	0.0940 U	0.110 UJ	0.100 U	0.0960 U	0.100 U	**0.150 J**	0.0930 U	0.0940 U
Benzyl butyl phthalate	85-68-7	µg/L	16	7.00 U	7.10 U	8.40 UJ	7.80 U	7.20 U	7.80 U	7.20 UJ	7.00 U	7.10 U
Biphenyl (Diphenyl)	92-52-4	µg/L	0.083	7.00 U	7.10 U	8.40 UJ	7.80 U	7.20 U	7.80 U	7.20 UJ	7.00 U	7.10 U
Bis(2-chloroethoxy)methane	111-91-1	µg/L	5.9	7.00 U	7.10 U	8.40 UJ	7.80 U	7.20 U	7.80 U	7.20 UJ	7.00 U	7.10 U
Bis(2-chloroethyl) ether (2-Chloroethyl ether)	111-44-4	µg/L	0.014	7.00 U	7.10 U	8.40 UJ	7.80 U	7.20 U	7.80 U	7.20 UJ	7.00 U	7.10 U
Bis(2-ethylhexyl)phthalate	117-81-7	µg/L	5.6	7.00 U	7.10 U	8.40 UJ	**2.30 J**	7.20 U	**28**	**3.40 J**	7.00 UJ	7.10 U
Caprolactam	105-60-2	µg/L	990	7.00 U	7.10 U	8.40 UJ	7.80 U	7.20 U	7.80 U	7.20 UJ	R	7.10 U
Carbazole	86-74-8	µg/L	--	7.00 U	7.10 U	8.40 UJ	7.80 U	7.20 U	7.80 U	7.20 UJ	7.00 U	7.10 U
Chrysene	218-01-9	µg/L	25	0.0930 U	0.0940 U	**0.470 J**	0.210 U	0.0960 U	0.100 U	**1.60 J**	0.0930 U	0.0940 U
Cresols, m- & p-[5]	Arc-Cresols	µg/L	93	7.00 U	7.10 U	8.40 U	R	R	R	7.20 UJ	7.00 UJ	R
Dibenz(a,h)anthracene	53-70-3	µg/L	0.025	0.0930 U	0.0940 U	0.110 UJ	0.100 U	0.0960 U	0.100 U	0.0960 UJ	0.0930 U	0.0940 U
Dibenzofuran	132-64-9	µg/L	0.79	7.00 U	7.10 U	8.40 UJ	7.80 U	7.20 U	7.80 U	7.20 UJ	7.00 U	7.10 U
Diethyl phthalate	84-66-2	µg/L	1500	7.00 U	7.10 U	8.40 UJ	7.80 U	7.20 U	7.80 U	7.20 UJ	7.00 UJ	7.10 U
Dimethyl phthalate	131-11-3	µg/L	--	7.00 U	7.10 U	8.40 UJ	7.80 U	7.20 U	7.80 U	7.20 UJ	7.00 UJ	7.10 U

Table 4-4b
Groundwater Analytical Results - SVOCs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW3		NHFLA-MW4BR		NHFLA-MW4OB		NHFLA-MW5BR	NHFLA-MW5OB	
			Sample ID[1]	NHFLA-MW3-SEP2020	NHFLA-MW3-DEC2020	NHFLA-MW4BR-SEP2020	NHFLA-MW4BR-DEC2020	NHFLA-MW4OB-SEP2020	NHFLA-MW4OB-DEC2020	NHFLA-MW5BR-SEP2020	NHFLA-MW5OB-SEP2020	NHFLA-MW-5OB-DEC2020
			Sampling Date	24-Sep-20	15-Dec-20	29-Sep-20	16-Dec-20	29-Sep-20	16-Dec-20	29-Sep-20	23-Sep-20	16-Dec-20
			Tapwater RSL[2]									
Di-n-butyl phthalate	84-74-2	µg/L	90	7.00 U	7.10 U	8.40 UJ	7.80 U	7.20 U	7.80 U	7.20 UJ	7.00 U	7.10 U
di-n-Octyl phthalate	117-84-0	µg/L	20	7.00 U	7.10 U	8.40 UJ	7.80 U	7.20 U	7.80 U	7.20 UJ	7.00 UJ	7.10 U
Fluoranthene	206-44-0	µg/L	80	0.0930 U	0.0940 U	**0.100 J**	**0.130 J**	0.0960 U	0.100 U	**0.390 J**	0.0930 U	0.0940 U
Fluorene	86-73-7	µg/L	29	0.0930 U	0.0940 U	**0.280 J**	0.100 U	0.0960 U	0.100 U	**1.10 J**	0.0930 U	0.0940 U
Hexachlorobenzene	118-74-1	µg/L	0.0098	7.00 U	7.10 U	8.40 UJ	7.80 U	7.20 U	7.80 U	7.20 UJ	7.00 U	7.10 U
Hexachlorobutadiene	87-68-3	µg/L	0.14	7.00 U	7.10 U	8.40 UJ	7.80 U	7.20 U	7.80 U	7.20 UJ	7.00 U	7.10 U
Hexachlorocyclopentadiene	77-47-4	µg/L	0.041	7.00 U	7.10 U	8.40 UJ	R	7.20 U	R	7.20 UJ	7.00 UJ	R
Hexachloroethane	67-72-1	µg/L	0.33	7.00 U	7.10 U	8.40 UJ	7.80 U	7.20 U	7.80 U	7.20 UJ	7.00 U	7.10 U
Indeno(1,2,3-c,d)pyrene	193-39-5	µg/L	0.25	0.0930 U	0.0940 U	0.110 UJ	0.100 U	0.0960 U	0.100 U	**0.0670 J**	0.0930 U	0.0940 U
Isophorone	78-59-1	µg/L	78	7.00 U	7.10 U	8.40 UJ	7.80 U	7.20 U	7.80 U	7.20 UJ	7.00 U	7.10 U
Naphthalene	91-20-3	µg/L	0.12	0.0930 U	0.0940 U	0.110 UJ	0.100 U	0.0960 U	0.100 U	**4.30 J**	0.0930 U	0.0940 U
Nitrobenzene	98-95-3	µg/L	0.14	7.00 U	7.10 U	8.40 UJ	7.80 U	7.20 U	7.80 U	7.20 UJ	7.00 U	7.10 U
N-Nitrosodi-n-propylamine	621-64-7	µg/L	0.011	7.00 U	7.10 U	8.40 UJ	7.80 U	7.20 U	7.80 U	7.20 UJ	7.00 UJ	7.10 U
N-Nitrosodiphenylamine	86-30-6	µg/L	12	7.00 U	7.10 U	8.40 UJ	7.80 U	7.20 U	7.80 U	7.20 UJ	7.00 UJ	7.10 U
Pentachlorophenol	87-86-5	µg/L	0.041	18.0 U	R	21.0 U	R	R	R	18.0 UJ	R	R
Phenanthrene	85-01-8	µg/L	--	0.0930 U	0.0940 U	**1.40 J**	**0.100 J**	0.0960 U	0.100 U	**4.90 J**	0.0930 U	0.0940 U
Phenol	108-95-2	µg/L	580	7.00 U	7.10 U	8.40 U	R	R	R	**9.90 J**	7.00 UJ	R
Pyrene	129-00-0	µg/L	12	0.0930 U	0.0940 U	**0.160 J**	**0.180 J**	0.0960 U	0.100 U	**0.850 J**	0.0930 U	**0.0570 J**

Notes:

1. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

2. Screening levels are the USEPA RSLs for tapwater. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

3. Screening level is for m-cresol.

Detected concentrations are bolded.

Detected concentrations exceeding the tapwater RSLs are bolded and shaded yellow.

Acronymns and Abbreviations:
-- = not available or not analyzed.
CASRN = Chemical Abstracts Service Registry Number.
LOD = limit of detection.
RSL = Regional Screening Level.
µg/L = micrograms per liter.
mg/L = milligrams per liter.
Qualifier Definitions:
U = The analyte was not detected and was reported as less than the LOD.
J = The reported result was an estimated value.
UJ = The analyte was not detected and was reported as less than the LOD as an estimated valu
R = The data validator flagged the data with “X” qualifiers due to significant QC deficiencies in the laboratory analysis of the samples.
The project team performed data usability assessment and recommended these data to be rejected/ are not usable (“R” qualifiers).

References

USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-4b
Groundwater Analytical Results - SVOCs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW6		NHFLA-MW7BR			NHFLA-MW7OB		
			Sample ID[1]	NHFLA-MW6-SEP2020	NHFLA-MW6-DEC2020	NHFLA-DUP13-SEP2020 (FD)	NHFLA-MW7BR-SEP2020	NHFLA-MW7BR-DEC2020	NHFLA-MW7OB-SEP2020	NHFLA-DUP14-DEC2020 (FD)	NHFLA-MW7OB-DEC2020
			Sampling Date	24-Sep-20	18-Dec-20	30-Sep-20	30-Sep-20	17-Dec-20	29-Sep-20	17-Dec-20	17-Dec-20
			Tapwater RSL[2]								
Semi-Volatile Organic Compounds											
1,2,4,5-Tetrachlorobenzene	95-94-3	µg/L	0.17	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 U	7.60 U	7.10 U
1,4-Dioxane (p-Dioxane)	123-91-1	µg/L	0.46	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 U	7.60 U	7.10 U
2,2'-Oxybis(1-chloropropane)	108-60-1	µg/L	71	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 U	7.60 U	7.10 U
2,3,4,6-Tetrachlorophenol	58-90-2	µg/L	24	7.10 U	7.00 U	7.00 U	7.00 U	R	R	R	R
2,4,5-Trichlorophenol	95-95-4	µg/L	120	18.0 U	18.0 U	18.0 U	18.0 U	R	R	R	R
2,4,6-Trichlorophenol	88-06-2	µg/L	1.2	7.10 U	7.00 U	7.00 U	7.00 U	R	R	R	R
2,4-Dichlorophenol	120-83-2	µg/L	4.6	7.10 U	7.00 U	7.00 U	7.00 U	R	R	R	R
2,4-Dimethylphenol	105-67-9	µg/L	36	7.10 U	7.00 U	7.00 U	7.00 U	R	R	R	R
2,4-Dinitrophenol	51-28-5	µg/L	3.9	18.0 U	18.0 U	18.0 U	18.0 U	R	R	R	R
2,4-Dinitrotoluene	121-14-2	µg/L	0.24	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 U	7.60 U	7.10 U
2,6-Dinitrotoluene	606-20-2	µg/L	0.049	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 U	7.60 U	7.10 U
2-Chloronaphthalene	91-58-7	µg/L	75	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 U	7.60 U	7.10 U
2-Chlorophenol	95-57-8	µg/L	9.1	7.10 U	7.00 U	7.00 U	7.00 U	R	R	R	R
2-Methylnaphthalene	91-57-6	µg/L	3.6	**0.150 J**	0.0930 U	0.200 U	0.190 U	0.100 U	0.0930 UJ	0.100 U	0.0950 U
2-Methylphenol (o-Cresol)	95-48-7	µg/L	93	7.10 U	7.00 U	7.00 U	7.00 U	R	R	R	R
2-Nitroaniline	88-74-4	µg/L	19	18.0 UJ	18.0 U	18.0 U	18.0 U	19.0 U	18.0 UJ	19.0 U	18.0 U
2-Nitrophenol	88-75-5	µg/L	--	7.10 U	7.00 U	7.00 U	7.00 U	R	R	R	R
3,3'-Dichlorobenzidine	91-94-1	µg/L	0.13	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 UJ	7.60 U	7.10 U
3-Nitroaniline	99-09-2	µg/L	--	18.0 UJ	18.0 U	18.0 U	18.0 U	19.0 U	18.0 UJ	19.0 U	18.0 U
4,6-Dinitro-2-methylphenol	534-52-1	µg/L	0.15	18.0 U	18.0 U	18.0 U	18.0 U	R	R	R	R
4-Bromophenyl phenyl ether	101-55-3	µg/L	--	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 U	7.60 U	7.10 U
4-Chloro-3-methylphenol	59-50-7	µg/L	140	7.10 U	7.00 U	7.00 U	7.00 U	R	R	R	R
4-Chloroaniline	106-47-8	µg/L	0.37	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 UJ	7.60 U	7.10 U
4-Chlorophenyl phenyl ether	7005-72-3	µg/L	--	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 U	7.60 U	7.10 U
4-Nitroaniline	100-01-6	µg/L	3.8	18.0 UJ	18.0 U	18.0 U	18.0 U	19.0 U	18.0 U	19.0 U	18.0 U
4-Nitrophenol	100-02-7	µg/L	--	18.0 U	18.0 U	18.0 U	18.0 U	R	R	R	R
Acenaphthene	83-32-9	µg/L	53	0.0950 U	0.0930 U	0.0980 U	0.0960 U	0.100 U	0.0930 U	0.100 U	0.0950 U
Acenaphthylene	208-96-8	µg/L	--	0.0950 U	0.0930 U	0.0980 U	0.0960 U	0.100 U	0.0930 U	0.100 U	0.0950 U
Acetophenone	98-86-2	µg/L	190	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 U	7.60 U	7.10 U
Anthracene	120-12-7	µg/L	180	0.0950 U	0.0930 U	0.0980 U	0.0960 U	0.100 U	0.0930 UJ	0.100 U	0.0950 U
Atrazine	1912-24-9	µg/L	0.3	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 U	7.60 U	7.10 U
Benzaldehyde	100-52-7	µg/L	19	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 U	7.60 U	7.10 U
Benzo(a)anthracene	56-55-3	µg/L	0.03	0.0950 U	0.0930 U	0.0980 U	0.0960 U	0.100 U	0.0930 U	0.100 U	0.0950 U
Benzo(a)pyrene	50-32-8	µg/L	0.025	0.0950 U	0.0930 U	0.0980 U	0.0960 U	0.100 U	0.0930 UJ	0.100 U	0.0950 U
Benzo(b)fluoranthene	205-99-2	µg/L	0.25	0.0950 U	0.0930 U	0.0980 U	0.0960 U	0.100 U	0.0930 U	0.100 U	0.0950 U
Benzo(g,h,i)perylene	191-24-2	µg/L	--	0.0950 U	0.0930 U	0.0980 U	0.0960 U	0.100 U	0.0930 UJ	0.100 U	0.0950 U
Benzo(k)fluoranthene	207-08-9	µg/L	2.5	0.0950 U	0.0930 U	0.0980 U	0.0960 U	0.100 U	0.0930 U	0.100 U	0.0950 U
Benzyl butyl phthalate	85-68-7	µg/L	16	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 U	7.60 U	7.10 U
Biphenyl (Diphenyl)	92-52-4	µg/L	0.083	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 U	7.60 U	7.10 U
Bis(2-chloroethoxy)methane	111-91-1	µg/L	5.9	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 UJ	7.60 U	7.10 U
Bis(2-chloroethyl) ether (2-Chloroethyl ether)	111-44-4	µg/L	0.014	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 U	7.60 U	7.10 U
Bis(2-ethylhexyl)phthalate	117-81-7	µg/L	5.6	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 UJ	7.60 U	7.10 U
Caprolactam	105-60-2	µg/L	990	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 UJ	7.60 U	7.10 U
Carbazole	86-74-8	µg/L	--	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 U	7.60 U	7.10 U
Chrysene	218-01-9	µg/L	25	0.0950 U	0.0930 U	0.0980 U	0.0960 U	0.100 U	0.0930 U	0.100 U	0.0950 U
Cresols, m- & p-[5]	Arc-Cresols	µg/L	93	7.10 U	7.00 U	7.00 U	7.00 U	R	R	R	R
Dibenz(a,h)anthracene	53-70-3	µg/L	0.025	0.0950 U	0.0930 U	0.0980 U	0.0960 U	0.100 U	0.0930 UJ	0.100 U	0.0950 U
Dibenzofuran	132-64-9	µg/L	0.79	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 U	7.60 U	7.10 U
Diethyl phthalate	84-66-2	µg/L	1500	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 U	7.60 U	7.10 U
Dimethyl phthalate	131-11-3	µg/L	--	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 U	7.60 U	7.10 U

Table 4-4b
Groundwater Analytical Results - SVOCs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW6		NHFLA-MW7BR			NHFLA-MW7OB		
			Sample ID[1]	NHFLA-MW6-SEP2020	NHFLA-MW6-DEC2020	NHFLA-DUP13-SEP2020 (FD)	NHFLA-MW7BR-SEP2020	NHFLA-MW7BR-DEC2020	NHFLA-MW7OB-SEP2020	NHFLA-DUP14-DEC2020 (FD)	NHFLA-MW7OB-DEC2020
			Sampling Date	24-Sep-20	18-Dec-20	30-Sep-20	30-Sep-20	17-Dec-20	29-Sep-20	17-Dec-20	17-Dec-20
			Tapwater RSL[2]								
Di-n-butyl phthalate	84-74-2	µg/L	90	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 U	7.60 U	7.10 U
di-n-Octyl phthalate	117-84-0	µg/L	20	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 U	7.60 U	7.10 U
Fluoranthene	206-44-0	µg/L	80	0.0950 U	0.0930 U	0.0980 U	0.0960 U	0.100 U	0.0930 UJ	0.100 U	0.0950 U
Fluorene	86-73-7	µg/L	29	0.0950 U	0.0930 U	0.0980 U	0.0960 U	0.100 U	0.0930 U	0.100 U	0.0950 U
Hexachlorobenzene	118-74-1	µg/L	0.0098	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 UJ	7.60 U	7.10 U
Hexachlorobutadiene	87-68-3	µg/L	0.14	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 U	7.60 U	7.10 U
Hexachlorocyclopentadiene	77-47-4	µg/L	0.041	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 U	7.60 U	7.10 U
Hexachloroethane	67-72-1	µg/L	0.33	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 U	7.60 U	7.10 U
Indeno(1,2,3-c,d)pyrene	193-39-5	µg/L	0.25	0.0950 U	0.0930 U	0.0980 U	0.0960 U	0.100 U	0.0930 UJ	0.100 U	0.0950 U
Isophorone	78-59-1	µg/L	78	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 U	7.60 U	7.10 U
Naphthalene	91-20-3	µg/L	0.12	0.0950 U	0.0930 U	0.0980 U	0.0960 U	0.100 U	0.0930 UJ	0.100 U	0.0950 U
Nitrobenzene	98-95-3	µg/L	0.14	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 U	7.60 U	7.10 U
N-Nitrosodi-n-propylamine	621-64-7	µg/L	0.011	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 U	7.60 U	7.10 U
N-Nitrosodiphenylamine	86-30-6	µg/L	12	7.10 UJ	7.00 U	7.00 U	7.00 U	7.50 U	7.00 U	7.60 U	7.10 U
Pentachlorophenol	87-86-5	µg/L	0.041	18.0 U	18.0 U	18.0 U	18.0 U	R	R	R	R
Phenanthrene	85-01-8	µg/L	--	**0.0750 J**	0.0930 U	0.0980 U	0.0960 U	0.100 U	0.0930 UJ	0.100 U	0.0950 U
Phenol	108-95-2	µg/L	580	7.10 U	7.00 U	7.00 U	7.00 U	R	R	R	R
Pyrene	129-00-0	µg/L	12	0.0950 U	0.0930 U	0.0980 U	0.0960 U	0.100 U	0.0930 U	**0.0610 J**	**0.0690 J**

Notes:

1. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

2. Screening levels are the USEPA RSLs for tapwater. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

3. Screening level is for m-cresol.

Detected concentrations are bolded.

Detected concentrations exceeding the tapwater RSLs are bolded and shaded yellow.

Acronymns and Abbreviations:
-- = not available or not analyzed.
CASRN = Chemical Abstracts Service Registry Number.
LOD = limit of detection.
RSL = Regional Screening Level.
µg/L = micrograms per liter.
mg/L = milligrams per liter.
Qualifier Definitions:
U = The analyte was not detected and was reported as less than the LOD.
J = The reported result was an estimated value.
UJ = The analyte was not detected and was reported as less than the LOD as an estimated valu
R = The data validator flagged the data with “X” qualifiers due to significant QC deficiencies in the laboratory analysis of the samples.
The project team performed data usability assessment and recommended these data to be rejected/ are not usable (“R” qualifiers).

References

USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-4b
Groundwater Analytical Results - SVOCs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW8		NHFLA-MW9BR		NHFLA-MW9OB			NHFLA-MW10	
			Sample ID[1]	NHFLA-MW8-SEP2020	NHFLA-MW8-DEC2020	NHFLA-MW9BR-SEP2020	NHFLA-MW9BR-DEC2020	NHFLA-MW9OB-SEP2020	NHFLA-DUP15-DEC2020 (FD)	NHFLA-MW9OB-DEC2020	NHFLA-MW10-SEP2020	NHFLA-MW10-DEC2020
			Sampling Date	25-Sep-20	17-Dec-20	25-Sep-20	17-Dec-20	25-Sep-20	17-Dec-20	17-Dec-20	24-Sep-20	15-Dec-20
			Tapwater RSL[2]									
Semi-Volatile Organic Compounds												
1,2,4,5-Tetrachlorobenzene	95-94-3	µg/L	0.17	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
1,4-Dioxane (p-Dioxane)	123-91-1	µg/L	0.46	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
2,2'-Oxybis(1-chloropropane)	108-60-1	µg/L	71	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
2,3,4,6-Tetrachlorophenol	58-90-2	µg/L	24	7.00 U	R	7.40 U	R	7.20 U	R	R	7.40 U	R
2,4,5-Trichlorophenol	95-95-4	µg/L	120	18.0 U	R	18.0 U	R	18.0 U	R	R	19.0 U	R
2,4,6-Trichlorophenol	88-06-2	µg/L	1.2	7.00 U	R	7.40 U	R	7.20 U	R	R	7.40 U	R
2,4-Dichlorophenol	120-83-2	µg/L	4.6	7.00 U	R	7.40 U	R	7.20 U	R	R	7.40 U	7.10 UJ
2,4-Dimethylphenol	105-67-9	µg/L	36	7.00 U	R	7.40 U	R	7.20 U	R	R	7.40 U	7.10 U
2,4-Dinitrophenol	51-28-5	µg/L	3.9	18.0 U	R	18.0 U	R	18.0 U	R	R	19.0 U	R
2,4-Dinitrotoluene	121-14-2	µg/L	0.24	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
2,6-Dinitrotoluene	606-20-2	µg/L	0.049	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
2-Chloronaphthalene	91-58-7	µg/L	75	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
2-Chlorophenol	95-57-8	µg/L	9.1	7.00 U	R	7.40 U	R	7.20 U	R	R	7.40 U	7.10 UJ
2-Methylnaphthalene	91-57-6	µg/L	3.6	0.0930 U	0.0940 U	**0.210**	**0.280**	0.0960 U	0.0940 UJ	0.0940 U	**0.130 J**	0.0940 U
2-Methylphenol (o-Cresol)	95-48-7	µg/L	93	7.00 U	R	7.40 U	R	7.20 U	R	R	7.40 U	7.10 U
2-Nitroaniline	88-74-4	µg/L	19	18.0 UJ	18.0 U	18.0 U	20.0 U	18.0 U	18.0 U	18.0 U	19.0 U	18.0 U
2-Nitrophenol	88-75-5	µg/L	--	7.00 U	R	7.40 U	R	7.20 U	R	R	7.40 U	7.10 UJ
3,3'-Dichlorobenzidine	91-94-1	µg/L	0.13	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
3-Nitroaniline	99-09-2	µg/L	--	18.0 UJ	18.0 U	18.0 U	20.0 U	18.0 U	18.0 U	18.0 U	19.0 U	18.0 U
4,6-Dinitro-2-methylphenol	534-52-1	µg/L	0.15	18.0 U	R	18.0 U	R	18.0 U	R	R	19.0 U	R
4-Bromophenyl phenyl ether	101-55-3	µg/L	--	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
4-Chloro-3-methylphenol	59-50-7	µg/L	140	7.00 U	R	7.40 U	R	7.20 U	R	R	7.40 U	7.10 U
4-Chloroaniline	106-47-8	µg/L	0.37	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
4-Chlorophenyl phenyl ether	7005-72-3	µg/L	--	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
4-Nitroaniline	100-01-6	µg/L	3.8	18.0 UJ	18.0 U	18.0 U	20.0 U	18.0 U	18.0 U	18.0 U	19.0 U	18.0 U
4-Nitrophenol	100-02-7	µg/L	--	18.0 U	R	18.0 U	R	18.0 U	R	R	19.0 U	R
Acenaphthene	83-32-9	µg/L	53	0.0930 U	0.0940 U	0.0980 U	**0.110 J**	0.0960 U	0.0940 UJ	0.0940 U	0.0990 U	0.0940 U
Acenaphthylene	208-96-8	µg/L	--	0.0930 U	0.0940 U	0.0980 U	0.100 U	0.0960 U	0.0940 UJ	0.0940 U	0.0990 U	0.0940 U
Acetophenone	98-86-2	µg/L	190	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
Anthracene	120-12-7	µg/L	180	0.0930 U	0.0940 U	0.0980 U	0.100 U	0.0960 U	0.0940 UJ	0.0940 U	0.0990 U	0.0940 U
Atrazine	1912-24-9	µg/L	0.3	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
Benzaldehyde	100-52-7	µg/L	19	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
Benzo(a)anthracene	56-55-3	µg/L	0.03	0.0930 U	0.0940 U	0.0980 U	0.100 U	0.0960 U	0.0940 UJ	0.0940 U	0.0990 U	0.0940 U
Benzo(a)pyrene	50-32-8	µg/L	0.025	0.0930 U	0.0940 U	0.0980 U	0.100 U	0.0960 U	0.0940 UJ	0.0940 U	0.0990 U	0.0940 U
Benzo(b)fluoranthene	205-99-2	µg/L	0.25	0.0930 U	0.0940 U	0.0980 U	0.100 U	0.0960 U	0.0940 UJ	0.0940 U	0.0990 U	0.0940 U
Benzo(g,h,i)perylene	191-24-2	µg/L	--	0.0930 U	0.0940 U	0.0980 U	0.100 U	0.0960 U	0.0940 UJ	0.0940 U	0.0990 U	0.0940 U
Benzo(k)fluoranthene	207-08-9	µg/L	2.5	0.0930 U	0.0940 U	0.0980 U	0.100 U	0.0960 U	0.0940 UJ	0.0940 U	0.0990 U	0.0940 U
Benzyl butyl phthalate	85-68-7	µg/L	16	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
Biphenyl (Diphenyl)	92-52-4	µg/L	0.083	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
Bis(2-chloroethoxy)methane	111-91-1	µg/L	5.9	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
Bis(2-chloroethyl) ether (2-Chloroethyl ether)	111-44-4	µg/L	0.014	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
Bis(2-ethylhexyl)phthalate	117-81-7	µg/L	5.6	7.00 UJ	7.10 U	**1.90 J**	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
Caprolactam	105-60-2	µg/L	990	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
Carbazole	86-74-8	µg/L	--	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
Chrysene	218-01-9	µg/L	25	0.0930 U	0.0940 U	0.0980 U	0.100 U	0.0960 U	0.0940 UJ	0.0940 U	0.0990 U	0.0940 U
Cresols, m- & p-[5]	Arc-Cresols	µg/L	93	7.00 U	R	7.40 U	R	7.20 U	R	R	7.40 U	7.10 U
Dibenz(a,h)anthracene	53-70-3	µg/L	0.025	0.0930 U	0.0940 U	0.0980 U	0.100 U	0.0960 U	0.0940 UJ	0.0940 U	0.0990 U	0.0940 U
Dibenzofuran	132-64-9	µg/L	0.79	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
Diethyl phthalate	84-66-2	µg/L	1500	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
Dimethyl phthalate	131-11-3	µg/L	--	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U

Table 4-4b
Groundwater Analytical Results - SVOCs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW8		NHFLA-MW9BR		NHFLA-MW9OB			NHFLA-MW10	
			Sample ID[1]	NHFLA-MW8-SEP2020	NHFLA-MW8-DEC2020	NHFLA-MW9BR-SEP2020	NHFLA-MW9BR-DEC2020	NHFLA-MW9OB-SEP2020	NHFLA-DUP15-DEC2020 (FD)	NHFLA-MW9OB-DEC2020	NHFLA-MW10-SEP2020	NHFLA-MW10-DEC2020
			Sampling Date	25-Sep-20	17-Dec-20	25-Sep-20	17-Dec-20	25-Sep-20	17-Dec-20	17-Dec-20	24-Sep-20	15-Dec-20
			Tapwater RSL[2]									
Di-n-butyl phthalate	84-74-2	µg/L	90	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
di-n-Octyl phthalate	117-84-0	µg/L	20	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
Fluoranthene	206-44-0	µg/L	80	0.0930 U	0.0940 U	0.0980 U	0.100 U	0.0960 U	0.0940 UJ	0.0940 U	0.0990 U	0.0940 U
Fluorene	86-73-7	µg/L	29	0.0930 U	0.0940 U	0.0980 U	0.100 U	0.0960 U	0.0940 UJ	0.0940 U	0.0990 U	0.0940 U
Hexachlorobenzene	118-74-1	µg/L	0.0098	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
Hexachlorobutadiene	87-68-3	µg/L	0.14	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
Hexachlorocyclopentadiene	77-47-4	µg/L	0.041	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
Hexachloroethane	67-72-1	µg/L	0.33	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
Indeno(1,2,3-c,d)pyrene	193-39-5	µg/L	0.25	0.0930 U	0.0940 U	0.0980 U	0.100 U	0.0960 U	0.0940 UJ	0.0940 U	0.0990 U	0.0940 U
Isophorone	78-59-1	µg/L	78	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
Naphthalene	91-20-3	µg/L	0.12	0.0930 U	0.0940 U	0.0980 U	**0.240**	0.0960 U	0.0940 UJ	0.0940 U	0.0990 U	0.0940 U
Nitrobenzene	98-95-3	µg/L	0.14	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
N-Nitrosodi-n-propylamine	621-64-7	µg/L	0.011	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
N-Nitrosodiphenylamine	86-30-6	µg/L	12	7.00 UJ	7.10 U	7.40 U	7.90 U	7.20 U	7.10 U	7.10 U	7.40 U	7.10 U
Pentachlorophenol	87-86-5	µg/L	0.041	18.0 U	R	18.0 U	R	18.0 U	R	R	19.0 U	R
Phenanthrene	85-01-8	µg/L	--	0.0930 U	0.0940 U	0.0980 U	**0.0830 J**	0.0960 U	0.0940 UJ	0.0940 U	0.0990 U	0.0940 U
Phenol	108-95-2	µg/L	580	7.00 U	R	7.40 U	R	7.20 U	R	R	7.40 U	7.10 U
Pyrene	129-00-0	µg/L	12	0.0930 U	0.0940 U	0.0980 U	**0.0700 J**	0.0960 U	0.0940 UJ	0.0940 U	0.0990 U	0.0940 U

Notes:

1. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

2. Screening levels are the USEPA RSLs for tapwater. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

3. Screening level is for m-cresol.

Detected concentrations are bolded.

Detected concentrations exceeding the tapwater RSLs are bolded and shaded yellow.

Acronymns and Abbreviations:
-- = not available or not analyzed.
CASRN = Chemical Abstracts Service Registry Number.
LOD = limit of detection.
RSL = Regional Screening Level.
µg/L = micrograms per liter.
mg/L = milligrams per liter.
Qualifier Definitions:
U = The analyte was not detected and was reported as less than the LOD.
J = The reported result was an estimated value.
UJ = The analyte was not detected and was reported as less than the LOD as an estimated valu
R = The data validator flagged the data with “X” qualifiers due to significant QC deficiencies in the laboratory analysis of the samples.
The project team performed data usability assessment and recommended these data to be rejected/ are not usable (“R” qualifiers).

References

USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-4b
Groundwater Analytical Results - SVOCs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW11		NHFLA-MW12		NHFLA-MW13		NHFLA-MW14		
			Sample ID[1]	NHFLA-MW11-SEP2020	NHFLA-MW11-DEC2020	NHFLA-MW12-SEP2020	NHFLA-MW12-DEC2020	NHFLA-MW13-SEP2020	NHFLA-MW13-DEC2020	NHFLA-DUP12-SEP2020 (FD)	NHFLA-MW14-SEP2020	NHFLA-MW14-DEC2020
			Sampling Date	25-Sep-20	15-Dec-20	24-Sep-20	15-Dec-20	24-Sep-20	18-Dec-20	24-Sep-20	24-Sep-20	16-Dec-20
			Tapwater RSL[2]									
Semi-Volatile Organic Compounds												
1,2,4,5-Tetrachlorobenzene	95-94-3	µg/L	0.17	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	7.30 U
1,4-Dioxane (p-Dioxane)	123-91-1	µg/L	0.46	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	7.30 U
2,2'-Oxybis(1-chloropropane)	108-60-1	µg/L	71	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	7.30 U
2,3,4,6-Tetrachlorophenol	58-90-2	µg/L	24	7.00 U	R	7.20 U	R	7.10 U	R	7.10 U	7.40 U	R
2,4,5-Trichlorophenol	95-95-4	µg/L	120	18.0 U	R	18.0 U	R	18.0 U	R	18.0 U	19.0 U	R
2,4,6-Trichlorophenol	88-06-2	µg/L	1.2	7.00 U	R	7.20 U	R	7.10 U	R	7.10 U	7.40 U	R
2,4-Dichlorophenol	120-83-2	µg/L	4.6	7.00 U	7.10 UJ	7.20 U	R	7.10 U	R	7.10 U	7.40 U	R
2,4-Dimethylphenol	105-67-9	µg/L	36	7.00 U	7.10 U	7.20 U	R	7.10 U	R	7.10 U	7.40 U	7.30 U
2,4-Dinitrophenol	51-28-5	µg/L	3.9	18.0 U	R	18.0 U	R	18.0 U	R	18.0 U	19.0 U	R
2,4-Dinitrotoluene	121-14-2	µg/L	0.24	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	R
2,6-Dinitrotoluene	606-20-2	µg/L	0.049	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	7.30 U
2-Chloronaphthalene	91-58-7	µg/L	75	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	7.30 U
2-Chlorophenol	95-57-8	µg/L	9.1	7.00 U	7.10 UJ	7.20 U	R	7.10 U	R	7.10 U	7.40 U	R
2-Methylnaphthalene	91-57-6	µg/L	3.6	0.0930 UJ	0.0940 U	0.0960 U	0.100 U	0.0950 U	0.0930 U	**0.170 J**	**0.230**	0.0970 U
2-Methylphenol (o-Cresol)	95-48-7	µg/L	93	7.00 U	7.10 U	7.20 U	R	7.10 U	R	7.10 U	7.40 U	7.30 UJ
2-Nitroaniline	88-74-4	µg/L	19	18.0 U	18.0 U	18.0 U	19.0 U	18.0 U	18.0 U	18.0 U	19.0 U	18.0 U
2-Nitrophenol	88-75-5	µg/L	--	7.00 U	7.10 UJ	7.20 U	R	7.10 U	R	7.10 U	7.40 U	R
3,3'-Dichlorobenzidine	91-94-1	µg/L	0.13	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	7.30 U
3-Nitroaniline	99-09-2	µg/L	--	18.0 U	18.0 U	18.0 U	19.0 U	18.0 U	18.0 U	18.0 U	19.0 U	18.0 U
4,6-Dinitro-2-methylphenol	534-52-1	µg/L	0.15	18.0 U	R	18.0 U	R	18.0 U	R	18.0 U	19.0 U	R
4-Bromophenyl phenyl ether	101-55-3	µg/L	--	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	7.30 U
4-Chloro-3-methylphenol	59-50-7	µg/L	140	7.00 U	7.10 U	7.20 U	R	7.10 U	R	7.10 U	7.40 U	7.30 UJ
4-Chloroaniline	106-47-8	µg/L	0.37	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	7.30 U
4-Chlorophenyl phenyl ether	7005-72-3	µg/L	--	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	7.30 U
4-Nitroaniline	100-01-6	µg/L	3.8	18.0 U	18.0 U	18.0 U	19.0 U	18.0 U	18.0 U	18.0 U	19.0 U	18.0 U
4-Nitrophenol	100-02-7	µg/L	--	18.0 U	R	18.0 U	R	18.0 U	R	18.0 U	19.0 U	R
Acenaphthene	83-32-9	µg/L	53	0.0930 UJ	0.0940 U	0.0960 U	0.100 U	0.0950 U	0.0930 U	0.0940 U	0.0990 U	0.0970 U
Acenaphthylene	208-96-8	µg/L	--	0.0930 UJ	0.0940 U	0.0960 U	0.100 U	0.0950 U	0.0930 U	0.0940 U	0.0990 U	0.0970 U
Acetophenone	98-86-2	µg/L	190	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	7.30 U
Anthracene	120-12-7	µg/L	180	0.0930 UJ	0.0940 U	0.0960 U	0.100 U	0.0950 U	0.0930 U	0.0940 U	0.0990 U	0.0970 U
Atrazine	1912-24-9	µg/L	0.3	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	7.30 U
Benzaldehyde	100-52-7	µg/L	19	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	7.30 U
Benzo(a)anthracene	56-55-3	µg/L	0.03	0.0930 UJ	**0.0440 J**	0.0960 U	0.100 U	0.0950 U	0.0930 U	0.0940 U	0.0990 U	0.0970 U
Benzo(a)pyrene	50-32-8	µg/L	0.025	0.0930 UJ	0.0940 U	0.0960 U	0.100 U	0.0950 U	0.0930 U	0.0940 U	0.0990 U	0.0970 U
Benzo(b)fluoranthene	205-99-2	µg/L	0.25	0.0930 UJ	0.0940 U	0.0960 U	0.100 U	0.0950 U	0.0930 U	0.0940 U	0.0990 U	0.0970 U
Benzo(g,h,i)perylene	191-24-2	µg/L	--	0.0930 UJ	**0.110 J**	0.0960 U	0.100 U	0.0950 U	0.0930 U	0.0940 U	0.0990 U	0.0970 U
Benzo(k)fluoranthene	207-08-9	µg/L	2.5	0.0930 UJ	0.0940 U	0.0960 U	0.100 U	0.0950 U	0.0930 U	0.0940 U	0.0990 U	0.0970 U
Benzyl butyl phthalate	85-68-7	µg/L	16	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	7.30 U
Biphenyl (Diphenyl)	92-52-4	µg/L	0.083	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	7.30 U
Bis(2-chloroethoxy)methane	111-91-1	µg/L	5.9	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	7.30 U
Bis(2-chloroethyl) ether (2-Chloroethyl ether)	111-44-4	µg/L	0.014	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	7.30 U
Bis(2-ethylhexyl)phthalate	117-81-7	µg/L	5.6	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	7.30 U
Caprolactam	105-60-2	µg/L	990	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	7.30 U
Carbazole	86-74-8	µg/L	--	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	7.30 U
Chrysene	218-01-9	µg/L	25	0.0930 UJ	0.0940 U	0.0960 U	0.100 U	0.0950 U	0.0930 U	0.0940 U	**0.0390 J**	0.0970 U
Cresols, m- & p-[5]	Arc-Cresols	µg/L	93	7.00 U	7.10 U	7.20 U	R	7.10 U	R	7.10 U	7.40 U	R
Dibenz(a,h)anthracene	53-70-3	µg/L	0.025	0.0930 UJ	0.0940 U	0.0960 U	0.100 U	0.0950 U	0.0930 U	0.0940 U	0.0990 U	0.0970 U
Dibenzofuran	132-64-9	µg/L	0.79	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	7.30 U
Diethyl phthalate	84-66-2	µg/L	1500	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	7.30 U
Dimethyl phthalate	131-11-3	µg/L	--	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	7.30 U

Table 4-4b
Groundwater Analytical Results - SVOCs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW11		NHFLA-MW12		NHFLA-MW13		NHFLA-MW14		
			Sample ID[1]	NHFLA-MW11-SEP2020	NHFLA-MW11-DEC2020	NHFLA-MW12-SEP2020	NHFLA-MW12-DEC2020	NHFLA-MW13-SEP2020	NHFLA-MW13-DEC2020	NHFLA-DUP12-SEP2020 (FD)	NHFLA-MW14-SEP2020	NHFLA-MW14-DEC2020
			Sampling Date	25-Sep-20	15-Dec-20	24-Sep-20	15-Dec-20	24-Sep-20	18-Dec-20	24-Sep-20	24-Sep-20	16-Dec-20
			Tapwater RSL[2]									
Di-n-butyl phthalate	84-74-2	µg/L	90	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	7.30 U
di-n-Octyl phthalate	117-84-0	µg/L	20	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	7.30 U
Fluoranthene	206-44-0	µg/L	80	0.0930 UJ	0.0940 U	0.0960 U	0.100 U	0.0950 U	0.0930 U	0.0940 U	0.0990 U	0.0970 U
Fluorene	86-73-7	µg/L	29	0.0930 UJ	0.0940 U	0.0960 U	0.100 U	0.0950 U	0.0930 U	0.0940 U	0.0990 U	0.0970 U
Hexachlorobenzene	118-74-1	µg/L	0.0098	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	7.30 U
Hexachlorobutadiene	87-68-3	µg/L	0.14	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	7.30 U
Hexachlorocyclopentadiene	77-47-4	µg/L	0.041	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	R
Hexachloroethane	67-72-1	µg/L	0.33	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	7.30 U
Indeno(1,2,3-c,d)pyrene	193-39-5	µg/L	0.25	0.0930 UJ	**0.0720 J**	0.0960 U	0.100 U	0.0950 U	0.0930 U	0.0940 U	0.0990 U	0.0970 U
Isophorone	78-59-1	µg/L	78	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	7.30 U
Naphthalene	91-20-3	µg/L	0.12	0.0930 UJ	0.0940 U	0.0960 U	0.100 U	0.0950 U	0.0930 U	0.0940 U	0.0990 U	0.0970 U
Nitrobenzene	98-95-3	µg/L	0.14	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	7.30 U
N-Nitrosodi-n-propylamine	621-64-7	µg/L	0.011	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	7.30 U
N-Nitrosodiphenylamine	86-30-6	µg/L	12	7.00 U	7.10 U	7.20 U	7.70 U	7.10 U	7.00 U	7.10 U	7.40 U	7.30 U
Pentachlorophenol	87-86-5	µg/L	0.041	18.0 U	R	18.0 U	R	18.0 U	R	18.0 U	19.0 U	R
Phenanthrene	85-01-8	µg/L	--	0.0930 UJ	0.0940 U	0.0960 U	0.100 U	0.0950 U	0.0930 U	0.0940 U	0.0990 U	0.0970 U
Phenol	108-95-2	µg/L	580	7.00 U	7.10 U	7.20 U	R	7.10 U	R	7.10 U	7.40 U	R
Pyrene	129-00-0	µg/L	12	0.0930 UJ	**0.0840 J**	0.0960 U	0.100 U	0.0950 U	0.0930 U	0.0940 U	0.0990 U	0.0970 U

Notes:

1. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

2. Screening levels are the USEPA RSLs for tapwater. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

3. Screening level is for m-cresol.

Detected concentrations are bolded.

Detected concentrations exceeding the tapwater RSLs are bolded and shaded yellow.

Acronymns and Abbreviations:
-- = not available or not analyzed.
CASRN = Chemical Abstracts Service Registry Number.
LOD = limit of detection.
RSL = Regional Screening Level.
µg/L = micrograms per liter.
mg/L = milligrams per liter.
Qualifier Definitions:
U = The analyte was not detected and was reported as less than the LOD.
J = The reported result was an estimated value.
UJ = The analyte was not detected and was reported as less than the LOD as an estimated valu
R = The data validator flagged the data with “X” qualifiers due to significant QC deficiencies in the laboratory analysis of the samples.
The project team performed data usability assessment and recommended these data to be rejected/ are not usable (“R” qualifiers).

References

USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-4b
Groundwater Analytical Results - SVOCs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW15		NHFLA-MW16 (upgradient)	
			Sample ID[1]	NHFLA-MW15-SEP2020	NHFLA-MW15-DEC2020	NHFLA-MW16-SEP2020	NHFLA-MW16-DEC2020
			Sampling Date	25-Sep-20	17-Dec-20	24-Sep-20	15-Dec-20
			Tapwater RSL[2]				
Semi-Volatile Organic Compounds							
1,2,4,5-Tetrachlorobenzene	95-94-3	µg/L	0.17	7.00 U	7.10 U	7.10 U	7.70 U
1,4-Dioxane (p-Dioxane)	123-91-1	µg/L	0.46	7.00 U	7.10 U	7.10 U	7.70 U
2,2'-Oxybis(1-chloropropane)	108-60-1	µg/L	71	7.00 U	7.10 U	7.10 U	7.70 U
2,3,4,6-Tetrachlorophenol	58-90-2	µg/L	24	7.00 U	R	7.10 U	R
2,4,5-Trichlorophenol	95-95-4	µg/L	120	18.0 U	R	18.0 U	R
2,4,6-Trichlorophenol	88-06-2	µg/L	1.2	7.00 U	R	7.10 U	R
2,4-Dichlorophenol	120-83-2	µg/L	4.6	7.00 U	R	7.10 U	R
2,4-Dimethylphenol	105-67-9	µg/L	36	7.00 U	R	7.10 U	R
2,4-Dinitrophenol	51-28-5	µg/L	3.9	18.0 U	R	18.0 U	R
2,4-Dinitrotoluene	121-14-2	µg/L	0.24	7.00 U	7.10 U	7.10 U	7.70 U
2,6-Dinitrotoluene	606-20-2	µg/L	0.049	7.00 U	7.10 U	7.10 U	7.70 U
2-Chloronaphthalene	91-58-7	µg/L	75	7.00 U	7.10 U	7.10 U	7.70 U
2-Chlorophenol	95-57-8	µg/L	9.1	7.00 U	R	7.10 U	R
2-Methylnaphthalene	91-57-6	µg/L	3.6	0.0930 U	0.0950 U	**0.160 J**	0.100 U
2-Methylphenol (o-Cresol)	95-48-7	µg/L	93	7.00 U	R	7.10 U	R
2-Nitroaniline	88-74-4	µg/L	19	18.0 U	18.0 U	18.0 U	19.0 U
2-Nitrophenol	88-75-5	µg/L	--	7.00 U	R	7.10 U	R
3,3'-Dichlorobenzidine	91-94-1	µg/L	0.13	7.00 U	7.10 U	7.10 U	7.70 U
3-Nitroaniline	99-09-2	µg/L	--	18.0 U	18.0 U	18.0 U	19.0 U
4,6-Dinitro-2-methylphenol	534-52-1	µg/L	0.15	18.0 U	R	18.0 U	R
4-Bromophenyl phenyl ether	101-55-3	µg/L	--	7.00 U	7.10 U	7.10 U	7.70 U
4-Chloro-3-methylphenol	59-50-7	µg/L	140	7.00 U	R	7.10 U	R
4-Chloroaniline	106-47-8	µg/L	0.37	7.00 U	7.10 U	7.10 U	7.70 U
4-Chlorophenyl phenyl ether	7005-72-3	µg/L	--	7.00 U	7.10 U	7.10 U	7.70 U
4-Nitroaniline	100-01-6	µg/L	3.8	18.0 U	18.0 U	18.0 U	19.0 U
4-Nitrophenol	100-02-7	µg/L	--	18.0 U	R	18.0 U	R
Acenaphthene	83-32-9	µg/L	53	0.0930 U	0.0950 U	0.0940 U	0.100 U
Acenaphthylene	208-96-8	µg/L	--	0.0930 U	0.0950 U	0.0940 U	0.100 U
Acetophenone	98-86-2	µg/L	190	7.00 U	7.10 U	7.10 U	7.70 U
Anthracene	120-12-7	µg/L	180	0.0930 U	0.0950 U	0.0940 U	0.100 U
Atrazine	1912-24-9	µg/L	0.3	7.00 U	7.10 U	7.10 U	7.70 U
Benzaldehyde	100-52-7	µg/L	19	7.00 U	7.10 U	7.10 U	7.70 U
Benzo(a)anthracene	56-55-3	µg/L	0.03	0.0930 U	0.0950 U	0.0940 U	0.100 U
Benzo(a)pyrene	50-32-8	µg/L	0.025	0.0930 U	0.0950 U	0.0940 U	0.100 U
Benzo(b)fluoranthene	205-99-2	µg/L	0.25	0.0930 U	0.0950 U	0.0940 U	0.100 U
Benzo(g,h,i)perylene	191-24-2	µg/L	--	0.0930 U	0.0950 U	0.0940 U	0.100 U
Benzo(k)fluoranthene	207-08-9	µg/L	2.5	0.0930 U	0.0950 U	0.0940 U	0.100 U
Benzyl butyl phthalate	85-68-7	µg/L	16	7.00 U	7.10 U	7.10 U	7.70 U
Biphenyl (Diphenyl)	92-52-4	µg/L	0.083	7.00 U	7.10 U	7.10 U	7.70 U
Bis(2-chloroethoxy)methane	111-91-1	µg/L	5.9	7.00 U	7.10 U	7.10 U	7.70 U
Bis(2-chloroethyl) ether (2-Chloroethyl ether)	111-44-4	µg/L	0.014	7.00 U	7.10 U	7.10 U	7.70 U
Bis(2-ethylhexyl)phthalate	117-81-7	µg/L	5.6	7.00 U	7.10 U	7.10 U	**2.20 J**
Caprolactam	105-60-2	µg/L	990	7.00 U	7.10 U	7.10 U	7.70 U
Carbazole	86-74-8	µg/L	--	7.00 U	7.10 U	7.10 U	7.70 U
Chrysene	218-01-9	µg/L	25	0.0930 U	0.0950 U	0.0940 U	0.100 U
Cresols, m- & p-[5]	Arc-Cresols	µg/L	93	7.00 U	R	7.10 U	R
Dibenz(a,h)anthracene	53-70-3	µg/L	0.025	0.0930 U	0.0950 U	0.0940 U	0.100 U
Dibenzofuran	132-64-9	µg/L	0.79	7.00 U	7.10 U	7.10 U	7.70 U
Diethyl phthalate	84-66-2	µg/L	1500	7.00 U	7.10 U	7.10 U	7.70 U
Dimethyl phthalate	131-11-3	µg/L	--	7.00 U	7.10 U	7.10 U	7.70 U

Table 4-4b
Groundwater Analytical Results - SVOCs
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW15		NHFLA-MW16 (upgradient)	
			Sample ID[1]	NHFLA-MW15-SEP2020	NHFLA-MW15-DEC2020	NHFLA-MW16-SEP2020	NHFLA-MW16-DEC2020
			Sampling Date	25-Sep-20	17-Dec-20	24-Sep-20	15-Dec-20
			Tapwater RSL[2]				
Di-n-butyl phthalate	84-74-2	µg/L	90	7.00 U	7.10 U	7.10 U	7.70 U
di-n-Octyl phthalate	117-84-0	µg/L	20	7.00 U	7.10 U	7.10 U	7.70 U
Fluoranthene	206-44-0	µg/L	80	0.0930 U	0.0950 U	0.0940 U	0.100 U
Fluorene	86-73-7	µg/L	29	0.0930 U	0.0950 U	0.0940 U	0.100 U
Hexachlorobenzene	118-74-1	µg/L	0.0098	7.00 U	7.10 U	7.10 U	7.70 U
Hexachlorobutadiene	87-68-3	µg/L	0.14	7.00 U	7.10 U	7.10 U	7.70 U
Hexachlorocyclopentadiene	77-47-4	µg/L	0.041	7.00 U	7.10 U	7.10 U	7.70 U
Hexachloroethane	67-72-1	µg/L	0.33	7.00 U	7.10 U	7.10 U	7.70 U
Indeno(1,2,3-c,d)pyrene	193-39-5	µg/L	0.25	0.0930 U	0.0950 U	0.0940 U	0.100 U
Isophorone	78-59-1	µg/L	78	7.00 U	7.10 U	7.10 U	7.70 U
Naphthalene	91-20-3	µg/L	0.12	0.0930 U	0.0950 U	0.0940 U	0.100 U
Nitrobenzene	98-95-3	µg/L	0.14	7.00 U	7.10 U	7.10 U	7.70 U
N-Nitrosodi-n-propylamine	621-64-7	µg/L	0.011	7.00 U	7.10 U	7.10 U	7.70 U
N-Nitrosodiphenylamine	86-30-6	µg/L	12	7.00 U	7.10 U	7.10 U	7.70 U
Pentachlorophenol	87-86-5	µg/L	0.041	18.0 U	R	18.0 U	R
Phenanthrene	85-01-8	µg/L	--	0.0930 U	0.0950 U	**0.0480 J**	0.100 U
Phenol	108-95-2	µg/L	580	7.00 U	R	7.10 U	R
Pyrene	129-00-0	µg/L	12	0.0930 U	0.0950 U	0.0940 U	0.100 U

Notes:

1. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

2. Screening levels are the USEPA RSLs for tapwater. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

3. Screening level is for m-cresol.

Detected concentrations are bolded.

Detected concentrations exceeding the tapwater RSLs are bolded and shaded yellow.

Acronymns and Abbreviations:
-- = not available or not analyzed.
CASRN = Chemical Abstracts Service Registry Number.
LOD = limit of detection.
RSL = Regional Screening Level.
µg/L = micrograms per liter.
mg/L = milligrams per liter.
Qualifier Definitions:
U = The analyte was not detected and was reported as less than the LOD.
J = The reported result was an estimated value.
UJ = The analyte was not detected and was reported as less than the LOD as an estimated valu
R = The data validator flagged the data with “X” qualifiers due to significant QC deficiencies in the laboratory analysis of the samples.
The project team performed data usability assessment and recommended these data to be rejected/ are not usable (“R” qualifiers).

References

USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-4c
Groundwater Analytical Results - Metals
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Location				NHFLA-MW1BR		NHFLA-MW1OB		NHFLA-MW2			NHFLA-MW3	
Sample ID[1]				NHFLA-MW1BR-SEP2020	NHFLA-MW-1BR-DEC2020	NHFLA-MW1OB-SEP2020	NHFLA-MW-1OB-DEC2020	NHFLA-DUP11-SEP2020 (FD)	NHFLA-MW2-SEP2020	NHFLA-MW2-DEC2020	NHFLA-MW3-SEP2020	NHFLA-MW3-DEC2020
Sampling Date				30-Sep-20	16-Dec-20	30-Sep-20	16-Dec-20	23-Sep-20	23-Sep-20	15-Dec-20	24-Sep-20	15-Dec-20
Constituent	CASRN	Units	Tapwater RSL[2]									
Metals (Total)												
Aluminum	7429-90-5	µg/L	2000	100 U	40.0 U	**106 J**	40.0 U	**349 J**	40.0 U	100 U	**495**	**162**
Antimony	7440-36-0	µg/L	0.78	**0.180 J**	**0.0940 J**	**0.190 J**	0.500 U	0.500 U	0.500 U	**0.0940 J**	0.500 U	**0.320 J**
Arsenic	7440-38-2	µg/L	0.052	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U
Barium	7440-39-3	µg/L	380	**1210**	**1090**	**551**	**815**	**141**	**120**	**18.8**	**82.1**	**159**
Beryllium	7440-41-7	µg/L	2.5	0.200 U	**0.0460 J**	0.200 U	**0.0910 J**	0.200 U	0.200 U	**0.0990 J**	1.00 U	**0.110 J**
Cadmium	7440-43-9	µg/L	0.92	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	**0.280 J**	**0.120 J**	**0.150 J**
Calcium	7440-70-2	µg/L	--	**206000**	**199000**	**132000**	**138000**	**164000**	**136000**	**5900**	**264000**	**210000**
Chromium[3]	7440-47-3	µg/L	2200	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	**1.20 J**	4.00 U
Cobalt	7440-48-4	µg/L	0.6	0.300 U	**0.110 J**	1.00 U	**0.180 J**	1.00 U	1.00 U	**3.73**	**2.07**	**16.3**
Copper	7440-50-8	µg/L	80	2.00 U	2.00 U	2.00 U	3.00 U	3.00 U	2.00 U	3.00 U	**3.11 J**	**12.9**
Iron	7439-89-6	µg/L	1400	**391**	**194**	**39700**	**33300**	**11400**	**8860**	**632**	**28400**	**16100**
Lead	7439-92-1	µg/L	15	**0.570 J**	0.500 U	**0.230 J**	**0.0770 J**	**0.620 J**	0.500 U	**0.0780 J**	1.00 U	**0.170 J**
Magnesium	7439-95-4	µg/L	--	**50800**	**49900**	**39500**	**41300**	**64900**	**53600**	**2510**	**81500**	**62100**
Manganese	7439-96-5	µg/L	43	**1180**	**998**	**1390**	**924**	**2630**	**2180**	**160**	**5440**	**3940**
Mercury[4]	7439-97-6	µg/L	0.57	0.100 U	0.200 U	0.100 U	0.200 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Nickel	7440-02-0	µg/L	39	1.20 U	**0.240 J**	**0.760 J**	**0.400 J**	**3.47**	**2.38**	**16.5**	**12**	**58**
Potassium	7440-09-7	µg/L	--	**3710**	**3530**	**11300**	**6690**	**11900**	**10200**	**2750**	**22200**	**13000**
Selenium	7782-49-2	µg/L	10	**0.210 J**	3.00 U	**0.470 J**	**0.190 J**	**0.230 J**	3.00 U	**0.320 J**	3.00 U	3.00 U
Silver	7440-22-4	µg/L	9.4	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U
Sodium	7440-23-5	µg/L	--	**41600**	**41300**	**93600**	**70300**	**663000**	**542000**	**210000**	**2720000**	**2130000**
Thallium	7440-28-0	µg/L	0.02	0.400 U	0.400 U	**0.140 J**	0.400 U	0.400 U	0.400 U	**0.140 J**	**0.130 J**	**1.33**
Vanadium	7440-62-2	µg/L	8.6	4.00 U	**2.90 J**	4.00 U	**0.690 J**	4.00 U	4.00 U	4.00 U	**1.90 J**	4.00 U
Zinc	7440-66-6	µg/L	600	8.00 U	8.00 U	**39.1 J**	8.00 U	**8.60 J**	8.00 U	**26**	**7.40 J**	**71.7**

Table 4-4c
Groundwater Analytical Results - Metals
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW1BR		NHFLA-MW1OB		NHFLA-MW2			NHFLA-MW3	
			Sample ID[1]	NHFLA-MW1BR-SEP2020	NHFLA-MW-1BR-DEC2020	NHFLA-MW1OB-SEP2020	NHFLA-MW-1OB-DEC2020	NHFLA-DUP11-SEP2020 (FD)	NHFLA-MW2-SEP2020	NHFLA-MW2-DEC2020	NHFLA-MW3-SEP2020	NHFLA-MW3-DEC2020
			Sampling Date	30-Sep-20	16-Dec-20	30-Sep-20	16-Dec-20	23-Sep-20	23-Sep-20	15-Dec-20	24-Sep-20	15-Dec-20
			Tapwater RSL[2]									
Metals (Dissolved)												
Aluminum, Dissolved	7429-90-5	µg/L	2000	40.0 U	40.0 U	40.0 U	40.0 U	40.0 U	40.0 U	**106**	40.0 U	**300**
Antimony, Dissolved	7440-36-0	µg/L	0.78	0.500 U	**0.0910 J**	0.500 U	0.500 U	0.500 U	0.500 U	**0.100 J**	0.500 U	**0.320 J**
Arsenic, Dissolved	7440-38-2	µg/L	0.052	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U
Barium, Dissolved	7440-39-3	µg/L	380	**1180**	**1080**	**496**	**783**	**128**	**130**	**18.6**	**72.6**	**172**
Beryllium, Dissolved	7440-41-7	µg/L	2.5	0.200 U	0.200 U	0.200 U	**0.0780 J**	0.200 U	0.200 U	**0.120 J**	1.00 U	**0.110 J**
Cadmium, Dissolved	7440-43-9	µg/L	0.92	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	**0.316 J**	**0.0850 J**	**0.170 J**
Calcium, Dissolved	7440-70-2	µg/L	--	**199000**	**196000**	**129000**	**145000**	**127000**	**126000**	**5970**	**256000**	**218000**
Chromium, Dissolved[3]	7440-47-3	µg/L	2200	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U
Chromium, Hexavalent, Diss	18540-29-9	mg/L	0.000035	0.0125 U	0.0125 U	0.0250 U	0.0250 U	0.0125 U	R	0.0125 U	0.0125 U	0.0125 U
Cobalt, Dissolved	7440-48-4	µg/L	0.6	0.300 U	**0.0930 J**	1.00 U	**0.150 J**	1.00 U	1.00 U	**3.76**	**1.6**	**17.7**
Copper, Dissolved	7440-50-8	µg/L	80	2.00 U	2.00 U	**11.3**	2.00 U	3.00 U	2.00 U	2.00 U	3.00 U	2.00 U
Iron, Dissolved	7439-89-6	µg/L	1400	**328 J**	**184**	**32900**	**33600**	**7820**	**7890**	**677**	**26000**	**16500**
Lead, Dissolved	7439-92-1	µg/L	15	0.500 U	**0.540 J**	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	**0.410 J**
Magnesium, Dissolved	7439-95-4	µg/L	--	**49900**	**48600**	**38800**	**41000**	**52500**	**50800**	**2580**	**75900**	**65400**
Manganese, Dissolved	7439-96-5	µg/L	43	**1150**	**962**	**1380**	**914**	**2070**	**2080**	**165**	**5120**	**4120**
Mercury, Dissolved[4]	7439-97-6	µg/L	0.063	0.100 U	0.200 U	0.100 U	0.200 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Nickel, Dissolved	7440-02-0	µg/L	39	1.20 U	**0.280 J**	1.20 U	**0.410 J**	**2.41**	**2.61**	**15.6**	**9.82**	**63**
Potassium, Dissolved	7440-09-7	µg/L	--	**3670**	**3470**	**11500**	**6640**	**11000**	**10800**	**2790**	**20800**	**13500**
Selenium, Dissolved	7782-49-2	µg/L	10	**0.210 J**	3.00 U	**0.440 J**	3.00 U	3.00 U	**0.220 J**	**0.320 J**	3.00 U	**0.260 J**
Silver, Dissolved	7440-22-4	µg/L	9.4	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U
Sodium, Dissolved	7440-23-5	µg/L	--	**40800**	**40400**	**92900**	**69800**	**535000**	**517000**	**213000**	**2680000**	**2210000**
Thallium, Dissolved	7440-28-0	µg/L	0.02	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	**0.300 J**	**0.140 J**	**0.0650 J**	**1.42**
Vanadium, Dissolved	7440-62-2	µg/L	8.6	**2.40 J**	**2.70 J**	**0.740 J**	**0.700 J**	4.00 U	4.00 U	4.00 U	4.00 U	**1.00 J**
Zinc, Dissolved	7440-66-6	µg/L	600	**41.5 J**	8.00 U	**11.0 J**	8.00 U	**9.90 J**	**8.60 J**	**26**	**10.0 J**	**43.9**
General Chemistry												
Hardness (as CaCO3)	471-34-1	µg/L	--	**724000**	**702000**	**492000**	**515000**	**676000**	**561000**	**25100**	**994000**	**781000**

Notes:

1. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

2. Screening levels are the USEPA RSLs for tapwater. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

3. Screening level is for chromium III.

4. Screening level is for mercuric chloride.

Detected concentrations are bolded.

Detected concentrations exceeding the tapwater RSLs are bolded and shaded yellow.

Acronymns and Abbreviations:

-- = not available or not analyzed.

CASRN = Chemical Abstracts Service Registry Number.

LOD = limit of detection.

RSL = Regional Screening Level.

µg/L = micrograms per liter.

Qualifier Definitions:

U = The analyte was not detected and was reported as less than the LOD.

J = The reported result was an estimated value.

UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.

R = The data validator flagged the data with “X” qualifiers due to significant QC deficiencies in the laboratory analysis of the samples.
The project team performed data usability assessment and recommended these data to be rejected/ are not usable (“R” qualifiers).

Reference:

at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-4c
Groundwater Analytical Results - Metals
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW4BR		NHFLA-MW4OB		NHFLA-MW5BR	NHFLA-MW5OB		NHFLA-MW6	
			Sample ID[1]	NHFLA-MW4BR-SEP2020	NHFLA-MW4BR-DEC2020	NHFLA-MW4OB-SEP2020	NHFLA-MW4OB-DEC2020	NHFLA-MW5BR-SEP2020	NHFLA-MW5OB-SEP2020	NHFLA-MW-5OB-DEC2020	NHFLA-MW6-SEP2020	NHFLA-MW6-DEC2020
			Sampling Date	29-Sep-20	16-Dec-20	29-Sep-20	16-Dec-20	29-Sep-20	23-Sep-20	16-Dec-20	24-Sep-20	18-Dec-20
			Tapwater RSL[2]									
Metals (Total)												
Aluminum	7429-90-5	µg/L	2000	**6260**	100 U	**481**	100 U	**1020**	**95.1 J**	40.0 U	**1220**	**230**
Antimony	7440-36-0	µg/L	0.78	**5.75**	**3.29**	0.500 U	**0.0580 J**	**8.96**	0.500 U	**0.160 J**	0.500 U	**0.150 J**
Arsenic	7440-38-2	µg/L	0.052	**6**	4.00 U	4.00 U	4.00 U	**3.00 J**	4.00 U	4.00 U	4.00 U	4.00 U
Barium	7440-39-3	µg/L	380	**395**	**273**	**136**	**63**	**202**	**1240**	**1280**	**93.6**	**63**
Beryllium	7440-41-7	µg/L	2.5	**0.370 J**	2.00 U	0.200 U	2.00 U	0.200 U	0.200 U	**0.0470 J**	0.200 U	**0.150 J**
Cadmium	7440-43-9	µg/L	0.92	**0.479 J**	**0.210 J**	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	**0.0970 J**	0.200 U
Calcium	7440-70-2	µg/L	--	**105000**	**95800**	**77000**	**47400**	**89300**	**136000**	**134000**	**80100**	**43800**
Chromium[3]	7440-47-3	µg/L	2200	**9.94**	4.00 U	4.00 U	4.00 U	4.00 U	**0.560 J**	4.00 U	**1.90 J**	4.00 U
Cobalt	7440-48-4	µg/L	0.6	**5.1**	**2.11**	**2.13**	**0.110 J**	**1.36**	**0.100 J**	**0.0780 J**	**1.32**	**1.24**
Copper	7440-50-8	µg/L	80	**18.7**	**5.51**	3.00 U	2.00 U	5.20 U	2.00 U	2.00 U	**4.26 J**	2.00 U
Iron	7439-89-6	µg/L	1400	**9420**	**385**	**7550**	**4530**	**1740**	**491**	**462**	**12000**	**7820**
Lead	7439-92-1	µg/L	15	**5.46**	**0.140 J**	1.00 U	0.500 U	**1.1**	**0.110 J**	0.500 U	**1.15**	**0.230 J**
Magnesium	7439-95-4	µg/L	--	**27200**	**22300**	**20300**	**11500**	**25300**	**25500**	**25800**	**17800**	**7380**
Manganese	7439-96-5	µg/L	43	**428**	**466**	**976**	**564**	**126**	**422**	**371**	**940**	**372**
Mercury[4]	7439-97-6	µg/L	0.57	0.100 U	**0.210 J**	0.100 U	0.200 U	0.100 U	0.100 U	0.200 U	0.100 U	0.100 U
Nickel	7440-02-0	µg/L	39	**32.2**	**16.7**	**14.6**	**0.560 J**	**11.5**	**0.420 J**	**0.200 J**	**7.97**	**5.15**
Potassium	7440-09-7	µg/L	--	**17000**	**11500**	**15800**	**6400**	**22900**	**7050**	**6060**	**18400**	**8000**
Selenium	7782-49-2	µg/L	10	**2.63 J**	**1.40 J**	**0.250 J**	**0.210 J**	**1.80 J**	3.00 UJ	3.00 U	**0.380 J**	**0.420 J**
Silver	7440-22-4	µg/L	9.4	**0.0610 J**	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U
Sodium	7440-23-5	µg/L	--	**1180000**	**1250000**	**1390000**	**1230000**	**854000**	**956000**	**883000**	**2340000**	**1680000**
Thallium	7440-28-0	µg/L	0.02	**1.42**	**0.400 J**	0.400 U	0.400 U	0.400 U	0.400 U	**0.150 J**	**0.280 J**	**0.190 J**
Vanadium	7440-62-2	µg/L	8.6	**24.1**	**1.60 J**	**2.30 J**	**1.10 J**	**5.79**	**0.820 J**	**0.810 J**	**4.00 J**	**1.40 J**
Zinc	7440-66-6	µg/L	600	**45.5**	**10**	**26**	8.00 U	10.0 U	8.00 U	8.00 U	**14**	**19**

Table 4-4c
Groundwater Analytical Results - Metals
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW4BR		NHFLA-MW4OB		NHFLA-MW5BR	NHFLA-MW5OB		NHFLA-MW6	
			Sample ID[1]	NHFLA-MW4BR-SEP2020	NHFLA-MW4BR-DEC2020	NHFLA-MW4OB-SEP2020	NHFLA-MW4OB-DEC2020	NHFLA-MW5BR-SEP2020	NHFLA-MW5OB-SEP2020	NHFLA-MW-5OB-DEC2020	NHFLA-MW6-SEP2020	NHFLA-MW6-DEC2020
			Sampling Date	29-Sep-20	16-Dec-20	29-Sep-20	16-Dec-20	29-Sep-20	23-Sep-20	16-Dec-20	24-Sep-20	18-Dec-20
			Tapwater RSL[2]									
Metals (Dissolved)												
Aluminum, Dissolved	7429-90-5	µg/L	2000	40.0 U	40.0 U	40.0 U	40.0 U	**80.0 J**	**23.0 J**	40.0 U	40.0 U	100 U
Antimony, Dissolved	7440-36-0	µg/L	0.78	**5.59**	**3.28**	0.500 U	0.500 U	**7.74**	**0.250 J**	0.500 U	0.500 U	**0.120 J**
Arsenic, Dissolved	7440-38-2	µg/L	0.052	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U
Barium, Dissolved	7440-39-3	µg/L	380	**331**	**291**	**119**	**61.9**	**184**	**1280**	**1050**	**82**	**60.7**
Beryllium, Dissolved	7440-41-7	µg/L	2.5	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	**0.140 J**
Cadmium, Dissolved	7440-43-9	µg/L	0.92	1.00 U	**0.220 J**	0.200 U	0.200 U	0.200 U	**0.0450 J**	0.200 U	**0.0490 J**	0.200 U
Calcium, Dissolved	7440-70-2	µg/L	--	**103000**	**99000**	**71500**	**44800**	**85800**	**130000**	**131000**	**79200**	**43000**
Chromium, Dissolved[3]	7440-47-3	µg/L	2200	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	**0.470 J**	4.00 U	4.00 U	4.00 U
Chromium, Hexavalent, Diss	18540-29-9	mg/L	0.000035	0.0125 U	0.0125 U	0.0125 U	0.0125 U	0.0125 U	**0.00230 J**	0.0125 UJ	0.0125 U	0.0125 U
Cobalt, Dissolved	7440-48-4	µg/L	0.6	**1.01**	**2.1**	**1.45**	**0.0970 J**	1.00 U	**0.0940 J**	0.300 U	**0.240 J**	**0.935 J**
Copper, Dissolved	7440-50-8	µg/L	80	6.00 U	**4.42**	2.00 U	**3.88**	3.73 U	**2.44 J**	2.00 U	2.00 U	2.00 U
Iron, Dissolved	7439-89-6	µg/L	1400	60.0 U	**240**	**3050**	**3830**	100 U	**100**	**347**	**6120**	**6660**
Lead, Dissolved	7439-92-1	µg/L	15	0.500 U	0.500 U	0.500 U	**0.0950 J**	1.00 U	**0.440 J**	0.500 U	0.500 U	0.500 U
Magnesium, Dissolved	7439-95-4	µg/L	--	**25100**	**23000**	**17900**	**11400**	**22500**	**23900**	**27800**	**16800**	**7280**
Manganese, Dissolved	7439-96-5	µg/L	43	**370**	**474**	**876**	**551**	**118**	**404**	**281**	**903**	**364**
Mercury, Dissolved[4]	7439-97-6	µg/L	0.063	0.100 U	0.200 U	0.100 U	0.200 U	0.100 U	0.200 U	0.200 U	0.100 U	0.100 U
Nickel, Dissolved	7440-02-0	µg/L	39	**11.8**	**17.5**	**10.7**	**1.67 J**	**7.59**	**0.590 J**	**0.230 J**	**3.04**	**4**
Potassium, Dissolved	7440-09-7	µg/L	--	**15200**	**11700**	**14000**	**6160**	**20100**	**6760**	**5650**	**17600**	**7740**
Selenium, Dissolved	7782-49-2	µg/L	10	3.00 U	**1.40 J**	3.00 U	**0.260 J**	**1.40 J**	3.00 U	3.00 U	**0.250 J**	**0.360 J**
Silver, Dissolved	7440-22-4	µg/L	9.4	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U
Sodium, Dissolved	7440-23-5	µg/L	--	**1260000**	**126000**	**1300000**	**121000**	**765000**	**902000**	**646000**	**2320000**	**1570000**
Thallium, Dissolved	7440-28-0	µg/L	0.02	1.00 U	**0.410 J**	0.400 U	0.400 U	0.400 U	**0.110 J**	0.400 U	**0.0610 J**	**0.160 J**
Vanadium, Dissolved	7440-62-2	µg/L	8.6	4.00 U	**1.60 J**	4.00 U	**0.800 J**	4.00 U	**0.660 J**	**0.670 J**	4.00 U	**0.800 J**
Zinc, Dissolved	7440-66-6	µg/L	600	**39**	**13**	**20.0 J**	**4.70 J**	**139**	**16**	8.00 U	**4.60 J**	**25**
General Chemistry												
Hardness (as CaCO3)	471-34-1	µg/L	--	**375000**	**331000**	**276000**	**166000**	**327000**	**444000**	**440000**	**274000**	**140000**

Notes:

1. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

2. Screening levels are the USEPA RSLs for tapwater. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

3. Screening level is for chromium III.

4. Screening level is for mercuric chloride.

Detected concentrations are bolded.

Detected concentrations exceeding the tapwater RSLs are bolded and shaded yellow.

Acronymns and Abbreviations:

-- = not available or not analyzed.

CASRN = Chemical Abstracts Service Registry Number.

LOD = limit of detection.

RSL = Regional Screening Level.

µg/L = micrograms per liter.

Qualifier Definitions:

U = The analyte was not detected and was reported as less than the LOD.

J = The reported result was an estimated value.

UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.

R = The data validator flagged the data with “X” qualifiers due to significant QC deficiencies in the laboratory analysis of the samples. The project team performed data usability assessment and recommended these data to be rejected/ are not usable (“R” qualifiers).

Reference:

at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-4c
Groundwater Analytical Results - Metals
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW7BR			NHFLA-MW7OB			NHFLA-MW8	
			Sample ID[1]	NHFLA-DUP13-SEP2020 (FD)	NHFLA-MW7BR-SEP2020	NHFLA-MW7BR-DEC2020	NHFLA-MW7OB-SEP2020	NHFLA-DUP14-DEC2020 (FD)	NHFLA-MW7OB-DEC2020	NHFLA-MW8-SEP2020	NHFLA-MW8-DEC2020
			Sampling Date	30-Sep-20	30-Sep-20	17-Dec-20	29-Sep-20	17-Dec-20	17-Dec-20	25-Sep-20	17-Dec-20
			Tapwater RSL[2]								
Metals (Total)											
Aluminum	7429-90-5	µg/L	2000	**166 J**	**174 J**	**190**	**107**	**130**	40.0 U	**180**	100 U
Antimony	7440-36-0	µg/L	0.78	**0.230 J**	**0.340 J**	**0.390 J**	0.500 U	**0.130 J**	**0.230 J**	0.500 U	0.500 U
Arsenic	7440-38-2	µg/L	0.052	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	**2.50 J**	4.00 U
Barium	7440-39-3	µg/L	380	**25.6**	**26**	**21.8**	**27.8**	**25.1**	**20.9**	**29.5**	**21.4**
Beryllium	7440-41-7	µg/L	2.5	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	**0.0420 J**	0.200 U	**0.200 J**
Cadmium	7440-43-9	µg/L	0.92	0.200 U	0.200 U	**0.0300 J**	0.200 U	0.200 U	**0.0470 J**	0.200 U	0.200 U
Calcium	7440-70-2	µg/L	--	**7790**	**7600**	**3790**	**6590 J**	**4590**	**4680**	**31600**	**27200**
Chromium[3]	7440-47-3	µg/L	2200	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	**0.740 J**	4.00 U
Cobalt	7440-48-4	µg/L	0.6	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U	1.00 U	1.00 U
Copper	7440-50-8	µg/L	80	2.00 U	2.00 U	2.00 U	3.00 U	2.00 U	2.00 U	2.00 U	2.00 U
Iron	7439-89-6	µg/L	1400	100 U	100 U	**146**	**134**	**173**	**100**	**2700**	**2010**
Lead	7439-92-1	µg/L	15	**0.170 J**	**0.160 J**	**0.120 J**	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Magnesium	7439-95-4	µg/L	--	**1210**	**1230**	**584**	**938**	**714**	**690**	**4170**	**3730**
Manganese	7439-96-5	µg/L	43	**11**	**10.9**	**9.88**	**33.9**	**24.4**	**22.9**	**150**	**107**
Mercury[4]	7439-97-6	µg/L	0.57	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Nickel	7440-02-0	µg/L	39	**0.570 J**	**0.350 J**	1.20 U	**0.640 J**	1.20 U	1.20 U	**2.83**	**2.62**
Potassium	7440-09-7	µg/L	--	**1630**	**1660**	**1180**	**2060**	**1540**	**1500**	**4260**	**2520**
Selenium	7782-49-2	µg/L	10	**0.330 J**	**0.520 J**	**0.360 J**	**0.300 J**	**0.290 J**	**0.420 J**	**0.230 J**	**0.280 J**
Silver	7440-22-4	µg/L	9.4	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U
Sodium	7440-23-5	µg/L	--	**162000**	**166000**	**119000**	**162000**	**133000**	**133000**	**274000**	**246000**
Thallium	7440-28-0	µg/L	0.02	0.400 U	**0.100 J**	0.400 U	0.400 U	0.400 U	**0.0760 J**	0.400 U	0.400 U
Vanadium	7440-62-2	µg/L	8.6	**2.10 J**	**2.00 J**	**2.00 J**	4.00 UJ	**1.50 J**	**1.30 J**	**1.90 J**	**1.40 J**
Zinc	7440-66-6	µg/L	600	8.00 U	8.00 U	8.00 U	8.00 UJ	8.00 U	8.00 U	**6.10 J**	**6.30 J**

Table 4-4c
Groundwater Analytical Results - Metals
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW7BR			NHFLA-MW7OB			NHFLA-MW8	
			Sample ID[1]	NHFLA-DUP13-SEP2020 (FD)	NHFLA-MW7BR-SEP2020	NHFLA-MW7BR-DEC2020	NHFLA-MW7OB-SEP2020	NHFLA-DUP14-DEC2020 (FD)	NHFLA-MW7OB-DEC2020	NHFLA-MW8-SEP2020	NHFLA-MW8-DEC2020
			Sampling Date	30-Sep-20	30-Sep-20	17-Dec-20	29-Sep-20	17-Dec-20	17-Dec-20	25-Sep-20	17-Dec-20
			Tapwater RSL[2]								
Metals (Dissolved)											
Aluminum, Dissolved	7429-90-5	µg/L	2000	100 UJ	**237 J**	**378**	**59.1 J**	40.0 U	**125**	**53.4 J**	100 U
Antimony, Dissolved	7440-36-0	µg/L	0.78	0.500 U	0.500 U	**0.370 J**	0.500 U	**0.120 J**	**0.130 J**	0.500 U	**0.0840 J**
Arsenic, Dissolved	7440-38-2	µg/L	0.052	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U
Barium, Dissolved	7440-39-3	µg/L	380	**23.4**	**24.9**	**24.6**	**27.2**	**20.8**	**23.5**	**28.3**	**22**
Beryllium, Dissolved	7440-41-7	µg/L	2.5	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	**0.0460 J**	0.200 U	**0.250 J**
Cadmium, Dissolved	7440-43-9	µg/L	0.92	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U
Calcium, Dissolved	7440-70-2	µg/L	--	**7630**	**7850**	**3820**	**6530**	**4540**	**4850**	**30800**	**26300**
Chromium, Dissolved[3]	7440-47-3	µg/L	2200	4.00 U	4.00 U	**0.820 J**	4.00 U	**2.53 J**	**0.780 J**	**0.640 J**	**0.670 J**
Chromium, Hexavalent, Diss	18540-29-9	mg/L	0.000035	0.0125 UJ	0.0125 UJ	**0.00100 J**	0.0125 U	**0.00170 J**	**0.00120 J**	**R**	**0.00330 J**
Cobalt, Dissolved	7440-48-4	µg/L	0.6	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U	0.300 U	1.00 U	1.00 U
Copper, Dissolved	7440-50-8	µg/L	80	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
Iron, Dissolved	7439-89-6	µg/L	1400	60.0 U	60.0 U	**262**	100 U	**120**	**174**	**2470**	**1810**
Lead, Dissolved	7439-92-1	µg/L	15	0.500 U	0.500 U	**0.180 J**	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U
Magnesium, Dissolved	7439-95-4	µg/L	--	**1240**	**1280**	**612**	**904**	**673**	**672**	**3990**	**3750**
Manganese, Dissolved	7439-96-5	µg/L	43	**9.69**	**11**	**12.7**	**29**	**23.3**	**22.5**	**146**	**107**
Mercury, Dissolved[4]	7439-97-6	µg/L	0.063	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Nickel, Dissolved	7440-02-0	µg/L	39	**0.310 J**	**0.360 J**	**0.860 J**	**0.420 J**	**0.410 J**	**0.540 J**	**2.61**	**2.92**
Potassium, Dissolved	7440-09-7	µg/L	--	**1640**	**1670**	**1220**	**1920**	**1490**	**1480**	**4140**	**2540**
Selenium, Dissolved	7782-49-2	µg/L	10	**0.480 J**	**0.390 J**	**0.360 J**	3.00 U	**0.290 J**	**0.440 J**	**0.210 J**	**0.310 J**
Silver, Dissolved	7440-22-4	µg/L	9.4	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U
Sodium, Dissolved	7440-23-5	µg/L	--	**165000**	**166000**	**119000**	**155000**	**130000**	**129000**	**268000**	**250000**
Thallium, Dissolved	7440-28-0	µg/L	0.02	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U
Vanadium, Dissolved	7440-62-2	µg/L	8.6	**1.70 J**	**1.60 J**	**2.60 J**	4.00 U	**1.40 J**	**1.50 J**	**1.30 J**	**1.30 J**
Zinc, Dissolved	7440-66-6	µg/L	600	8.00 U	8.00 U	8.00 U	10.0 U	8.00 U	8.00 U	**7.00 J**	**4.80 J**
General Chemistry											
Hardness (as CaCO3)	471-34-1	µg/L	--	**24400**	**24000**	**11900**	**20300**	**14400**	**14500**	**96200**	**83300**

Notes:

1. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

2. Screening levels are the USEPA RSLs for tapwater. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

3. Screening level is for chromium III.

4. Screening level is for mercuric chloride.

Detected concentrations are bolded.

Detected concentrations exceeding the tapwater RSLs are bolded and shaded yellow.

Acronymns and Abbreviations:

-- = not available or not analyzed.

CASRN = Chemical Abstracts Service Registry Number.

LOD = limit of detection.

RSL = Regional Screening Level.

µg/L = micrograms per liter.

Qualifier Definitions:

U = The analyte was not detected and was reported as less than the LOD.

J = The reported result was an estimated value.

UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.

R = The data validator flagged the data with “X” qualifiers due to significant QC deficiencies in the laboratory analysis of the samples. The project team performed data usability assessment and recommended these data to be rejected/ are not usable (“R” qualifiers).

Reference:

at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-4c
Groundwater Analytical Results - Metals
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW9BR		NHFLA-MW9OB			NHFLA-MW10		NHFLA-MW11	
			Sample ID[1]	NHFLA-MW9BR-SEP2020	NHFLA-MW9BR-DEC2020	NHFLA-MW9OB-SEP2020	NHFLA-DUP15-DEC2020 (FD)	NHFLA-MW9OB-DEC2020	NHFLA-MW10-SEP2020	NHFLA-MW10-DEC2020	NHFLA-MW11-SEP2020	NHFLA-MW11-DEC2020
			Sampling Date	25-Sep-20	17-Dec-20	25-Sep-20	17-Dec-20	17-Dec-20	24-Sep-20	15-Dec-20	25-Sep-20	15-Dec-20
			Tapwater RSL[2]									
Metals (Total)												
Aluminum	7429-90-5	µg/L	2000	**274**	**146**	100 U	40.0 U	40.0 U	**110**	100 U	**1740**	**440**
Antimony	7440-36-0	µg/L	0.78	**1.46**	**0.786 J**	0.500 U	**0.0950 J**	**0.100 J**	0.500 U	**0.250 J**	0.500 U	**0.210 J**
Arsenic	7440-38-2	µg/L	0.052	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	**2.40 J**	**2.80 J**
Barium	7440-39-3	µg/L	380	**99.3**	**106**	**39**	**20.8**	**20.2**	**59.7**	**52.6**	**145**	**89.9**
Beryllium	7440-41-7	µg/L	2.5	0.200 U	**0.0360 J**	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	1.00 U	**0.190 J**
Cadmium	7440-43-9	µg/L	0.92	0.200 U	**0.0340 J**	0.200 U	0.200 U	**0.0480 J**	0.200 U	**0.0490 J**	0.200 U	**0.333 J**
Calcium	7440-70-2	µg/L	--	**126000**	**72600**	**84900**	**76700**	**72700**	**82400**	**77200**	**114000**	**91500**
Chromium[3]	7440-47-3	µg/L	2200	**7.35**	4.00 U	4.00 U	4.00 U	4.00 U	**0.410 J**	4.00 U	5.00 U	4.00 U
Cobalt	7440-48-4	µg/L	0.6	0.300 U	0.300 U	**2.22**	**1.94**	**1.62**	**0.150 J**	**3.52**	**1.85**	**13.9**
Copper	7440-50-8	µg/L	80	**5.15**	2.00 U	3.00 U	2.00 U	2.00 U	3.00 U	2.00 U	**16.8**	**4.78**
Iron	7439-89-6	µg/L	1400	**2480**	**307**	**1300**	**1340**	**1160**	**6320**	**9560**	**22700**	**20100**
Lead	7439-92-1	µg/L	15	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	**0.0890 J**	**1.94**	**0.380 J**
Magnesium	7439-95-4	µg/L	--	**12600**	**3850**	**18300**	**18200**	**17800**	**21800**	**21500**	**36700**	**28200**
Manganese	7439-96-5	µg/L	43	**404**	**53.7**	**770**	**820**	**789**	**1080**	**1090**	**1540**	**1710**
Mercury[4]	7439-97-6	µg/L	0.57	0.100 U	**0.0190 J**	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	**0.0170 J**	0.100 U
Nickel	7440-02-0	µg/L	39	**4.91**	1.20 U	**4.24**	**2.01**	2.00 U	**1.59 J**	**3.87**	**9.05**	**41.1**
Potassium	7440-09-7	µg/L	--	**12700**	**9920**	**7440**	**4780**	**4590**	**6360**	**6110**	**9420**	**9330**
Selenium	7782-49-2	µg/L	10	**0.660 J**	**0.210 J**	**0.220 J**	**0.210 J**	**0.270 J**	3.00 U	**0.270 J**	**0.560 J**	**0.780 J**
Silver	7440-22-4	µg/L	9.4	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U
Sodium	7440-23-5	µg/L	--	**970000**	**834000**	**337000**	**339000**	**326000**	**186000**	**155000**	**201000**	**237000**
Thallium	7440-28-0	µg/L	0.02	0.400 U	0.400 U	0.400 U	**0.130 J**	**0.150 J**	0.400 U	**0.0630 J**	0.400 U	**0.340 J**
Vanadium	7440-62-2	µg/L	8.6	**4.60 J**	**5.59**	**0.680 J**	4.00 U	4.00 U	**0.960 J**	**0.820 J**	**7.51**	**4.10 J**
Zinc	7440-66-6	µg/L	600	8.00 U	8.00 U	8.00 U	**14**	8.00 U	8.00 U	**5.00 J**	**21**	**44.8**

Table 4-4c
Groundwater Analytical Results - Metals
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW9BR		NHFLA-MW9OB			NHFLA-MW10		NHFLA-MW11	
			Sample ID[1]	NHFLA-MW9BR-SEP2020	NHFLA-MW9BR-DEC2020	NHFLA-MW9OB-SEP2020	NHFLA-DUP15-DEC2020 (FD)	NHFLA-MW9OB-DEC2020	NHFLA-MW10-SEP2020	NHFLA-MW10-DEC2020	NHFLA-MW11-SEP2020	NHFLA-MW11-DEC2020
			Sampling Date	25-Sep-20	17-Dec-20	25-Sep-20	17-Dec-20	17-Dec-20	24-Sep-20	15-Dec-20	25-Sep-20	15-Dec-20
			Tapwater RSL[2]									
Metals (Dissolved)												
Aluminum, Dissolved	7429-90-5	µg/L	2000	40.0 U	40.0 U	40.0 U	40.0 U	40.0 U	40.0 U	40.0 U	**108**	**1250**
Antimony, Dissolved	7440-36-0	µg/L	0.78	**1.18**	**0.790 J**	0.500 U	**0.0860 J**	**0.0930 J**	0.500 U	**0.220 J**	0.500 U	**0.350 J**
Arsenic, Dissolved	7440-38-2	µg/L	0.052	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	**3.90 J**
Barium, Dissolved	7440-39-3	µg/L	380	**105**	**70.7**	**33.8**	**20**	**21.5**	**52.4**	**50.1**	**128**	**100**
Beryllium, Dissolved	7440-41-7	µg/L	2.5	0.200 U	**0.0420 J**	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	**0.220 J**	**0.240 J**
Cadmium, Dissolved	7440-43-9	µg/L	0.92	0.200 U	**0.0400 J**	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	0.200 U	**0.344 J**
Calcium, Dissolved	7440-70-2	µg/L	--	**126000**	**60300**	**84000**	**78900**	**77600**	**79400**	**78900**	**115000**	**95600**
Chromium, Dissolved[3]	7440-47-3	µg/L	2200	4.00 U	**0.360 J**	4.00 U	**0.370 J**	**0.360 J**	4.00 U	4.00 U	**2.00 J**	5.00 U
Chromium, Hexavalent, Diss	18540-29-9	mg/L	0.000035	**R**	**0.000950 J**	**R**	**0.00270 J**	**0.00190 J**	0.0125 U	0.0125 U	**R**	0.0125 U
Cobalt, Dissolved	7440-48-4	µg/L	0.6	0.300 U	0.300 U	**2.22**	**1.51**	**1.54**	**0.140 J**	**3.58**	**0.520 J**	**15.7**
Copper, Dissolved	7440-50-8	µg/L	80	3.00 U	2.00 U	3.00 U	2.00 U	2.00 U	3.00 U	2.00 U	2.00 U	**5.47**
Iron, Dissolved	7439-89-6	µg/L	1400	**20.0 J**	**40.0 J**	**515**	**907 J**	**990**	**2900**	**5750**	**19200**	**24000**
Lead, Dissolved	7439-92-1	µg/L	15	0.500 U	**0.0800 J**	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	0.500 U	**1.2**
Magnesium, Dissolved	7439-95-4	µg/L	--	**11500**	**5530**	**17400**	**17100**	**17800**	**21000**	**21400**	**36800**	**29600**
Manganese, Dissolved	7439-96-5	µg/L	43	**352**	**51**	**728**	**745**	**774**	**1050**	**1080**	**1550**	**1810**
Mercury, Dissolved[4]	7439-97-6	µg/L	0.063	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U
Nickel, Dissolved	7440-02-0	µg/L	39	**1.64 J**	**0.650 J**	**3.9**	**2.16**	**1.94 J**	1.20 U	**3.99 J**	**3.32**	**46.6**
Potassium, Dissolved	7440-09-7	µg/L	--	**12000**	**11300**	**6980**	**4320**	**4390**	**6030**	**6130**	**9220**	**9970**
Selenium, Dissolved	7782-49-2	µg/L	10	**0.480 J**	**0.320 J**	**0.240 J**	**0.210 J**	**0.240 J**	3.00 U	**0.200 J**	**0.440 J**	**1.10 J**
Silver, Dissolved	7440-22-4	µg/L	9.4	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U
Sodium, Dissolved	7440-23-5	µg/L	--	**977000**	**842000**	**323000**	**310000**	**321000**	**180000**	**152000**	**202000**	**243000**
Thallium, Dissolved	7440-28-0	µg/L	0.02	0.400 U	**0.0620 J**	0.400 U	**0.150 J**	**0.140 J**	0.400 U	0.400 U	0.400 U	**0.470 J**
Vanadium, Dissolved	7440-62-2	µg/L	8.6	**1.00 J**	**2.40 J**	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	**2.10 J**	**7.48**
Zinc, Dissolved	7440-66-6	µg/L	600	**6.00 J**	8.00 U	8.00 U	8.00 U	8.00 U	8.00 U	8.00 U	**6.30 J**	**52.4**
General Chemistry												
Hardness (as CaCO3)	471-34-1	µg/L	--	**367000**	**197000**	**287000**	**267000**	**255000**	**295000**	**281000**	**435000**	**345000**

Notes:

1. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

2. Screening levels are the USEPA RSLs for tapwater. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

3. Screening level is for chromium III.

4. Screening level is for mercuric chloride.

Detected concentrations are bolded.

Detected concentrations exceeding the tapwater RSLs are bolded and shaded yellow.

Acronymns and Abbreviations:

-- = not available or not analyzed.

CASRN = Chemical Abstracts Service Registry Number.

LOD = limit of detection.

RSL = Regional Screening Level.

µg/L = micrograms per liter.

Qualifier Definitions:

U = The analyte was not detected and was reported as less than the LOD.

J = The reported result was an estimated value.

UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.

R = The data validator flagged the data with “X” qualifiers due to significant QC deficiencies in the laboratory analysis of the samples. The project team performed data usability assessment and recommended these data to be rejected/ are not usable (“R” qualifiers).

Reference:

at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-4c
Groundwater Analytical Results - Metals
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW12		NHFLA-MW13		NHFLA-MW14		
			Sample ID[1]	NHFLA-MW12-SEP2020	NHFLA-MW12-DEC2020	NHFLA-MW13-SEP2020	NHFLA-MW13-DEC2020	NHFLA-DUP12-SEP2020 (FD)	NHFLA-MW14-SEP2020	NHFLA-MW14-DEC2020
			Sampling Date	24-Sep-20	15-Dec-20	24-Sep-20	18-Dec-20	24-Sep-20	24-Sep-20	16-Dec-20
			Tapwater RSL[2]							
Metals (Total)										
Aluminum	7429-90-5	µg/L	2000	**3640**	**121**	**330**	100 U	**321**	**297**	40.0 U
Antimony	7440-36-0	µg/L	0.78	1.00 U	**0.180 J**	0.500 U	0.500 U	0.500 U	0.500 U	**0.150 J**
Arsenic	7440-38-2	µg/L	0.052	**3.80 J**	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U
Barium	7440-39-3	µg/L	380	**82.2**	**25.9**	**118**	**37.3**	**119**	**121**	**62.8**
Beryllium	7440-41-7	µg/L	2.5	1.00 U	0.200 U	0.200 U	**0.0370 J**	0.200 U	0.200 U	0.200 U
Cadmium	7440-43-9	µg/L	0.92	**0.110 J**	**0.0740 J**	0.200 U	0.200 U	0.200 U	**0.0420 J**	0.200 U
Calcium	7440-70-2	µg/L	--	**82500**	**122000**	**42700**	**13800**	**132000**	**133000**	**91400**
Chromium[3]	7440-47-3	µg/L	2200	**5.51**	4.00 U	**0.710 J**	4.00 U	**0.730 J**	**0.740 J**	4.00 U
Cobalt	7440-48-4	µg/L	0.6	**3.18**	**0.430 J**	**0.280 J**	0.300 U	**0.430 J**	**0.450 J**	**0.520 J**
Copper	7440-50-8	µg/L	80	**13.2**	2.00 U	**3.80 J**	2.00 U	**3.32 J**	**3.25 J**	2.00 U
Iron	7439-89-6	µg/L	1400	**7970**	**185**	**3010**	**1260**	**3040**	**3040**	**1330**
Lead	7439-92-1	µg/L	15	**3.39**	**0.150 J**	0.500 U	**0.150 J**	0.500 U	0.500 U	0.500 U
Magnesium	7439-95-4	µg/L	--	**14500**	**13600**	**6940**	**2210**	**31900**	**32400**	**10400**
Manganese	7439-96-5	µg/L	43	**405**	**5.89**	**368**	**124**	**1890**	**1930**	**503**
Mercury[4]	7439-97-6	µg/L	0.57	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.200 U
Nickel	7440-02-0	µg/L	39	**18.4**	**6.49**	**1.40 J**	1.20 U	**2.94**	**2.88**	**1.64 J**
Potassium	7440-09-7	µg/L	--	**10300**	**2430**	**6380**	**3280**	**14400**	**14700**	**2530**
Selenium	7782-49-2	µg/L	10	**1.00 J**	**6.22**	**0.240 J**	**0.300 J**	**0.250 J**	**0.250 J**	**0.300 J**
Silver	7440-22-4	µg/L	9.4	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U
Sodium	7440-23-5	µg/L	--	**188000**	**101000**	**630000**	**353000**	**615000**	**628000**	**296000**
Thallium	7440-28-0	µg/L	0.02	**0.907 J**	**0.230 J**	**0.0640 J**	0.400 U	**0.130 J**	**0.130 J**	**0.150 J**
Vanadium	7440-62-2	µg/L	8.6	**11.5**	**0.630 J**	**1.60 J**	**1.50 J**	**1.80 J**	**1.80 J**	**0.900 J**
Zinc	7440-66-6	µg/L	600	**13**	8.00 U	8.00 U	8.00 U	**4.80 J**	**5.00 J**	**4.00 J**

Table 4-4c
Groundwater Analytical Results - Metals
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW12		NHFLA-MW13		NHFLA-MW14		
			Sample ID[1]	NHFLA-MW12-SEP2020	NHFLA-MW12-DEC2020	NHFLA-MW13-SEP2020	NHFLA-MW13-DEC2020	NHFLA-DUP12-SEP2020 (FD)	NHFLA-MW14-SEP2020	NHFLA-MW14-DEC2020
			Sampling Date	24-Sep-20	15-Dec-20	24-Sep-20	18-Dec-20	24-Sep-20	24-Sep-20	16-Dec-20
			Tapwater RSL[2]							
Metals (Dissolved)										
Aluminum, Dissolved	7429-90-5	µg/L	2000	**109**	40.0 U	40.0 U	100 U	40.0 U	40.0 U	40.0 U
Antimony, Dissolved	7440-36-0	µg/L	0.78	0.500 U	**0.160 J**	0.500 U	0.500 U	0.500 U	0.500 U	**0.0650 J**
Arsenic, Dissolved	7440-38-2	µg/L	0.052	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U
Barium, Dissolved	7440-39-3	µg/L	380	**60.7**	**25.4**	**109**	**40.1**	**117**	**114**	**69.6**
Beryllium, Dissolved	7440-41-7	µg/L	2.5	0.200 U	0.200 U	0.200 U	**0.0600 J**	0.200 U	0.200 U	**0.0350 J**
Cadmium, Dissolved	7440-43-9	µg/L	0.92	**0.0530 J**	**0.0820 J**	0.200 U	0.200 U	**0.0300 J**	0.200 U	0.200 U
Calcium, Dissolved	7440-70-2	µg/L	--	**81300**	**120000**	**41500**	**14400**	**133000**	**133000**	**90800**
Chromium, Dissolved[3]	7440-47-3	µg/L	2200	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U	4.00 U
Chromium, Hexavalent, Diss	18540-29-9	mg/L	0.000035	0.0125 U	0.0125 U	0.0125 U	0.0125 U	0.0125 U	0.0125 U	0.0125 UJ
Cobalt, Dissolved	7440-48-4	µg/L	0.6	**1.28**	**0.360 J**	**0.0740 J**	**0.120 J**	**0.160 J**	**0.160 J**	**0.540 J**
Copper, Dissolved	7440-50-8	µg/L	80	**4.54 J**	2.00 U	3.00 U	2.00 U	3.00 U	3.00 U	2.00 U
Iron, Dissolved	7439-89-6	µg/L	1400	100 U	**24.0 J**	**1020**	**1070**	**1370**	**1340**	**1230**
Lead, Dissolved	7439-92-1	µg/L	15	0.500 U	0.500 U	0.500 U	**0.110 J**	0.500 U	0.500 U	0.500 U
Magnesium, Dissolved	7439-95-4	µg/L	--	**13700**	**13300**	**6700**	**2220**	**32400**	**32300**	**10800**
Manganese, Dissolved	7439-96-5	µg/L	43	**375**	**4.89**	**354**	**127**	**1930**	**1920**	**522**
Mercury, Dissolved[4]	7439-97-6	µg/L	0.063	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.100 U	0.200 U
Nickel, Dissolved	7440-02-0	µg/L	39	**8.86**	**6.16 J**	1.20 U	2.00 U	2.00 U	2.00 U	**2.33**
Potassium, Dissolved	7440-09-7	µg/L	--	**9070**	**2310**	**6200**	**3240**	**14500**	**14300**	**2600**
Selenium, Dissolved	7782-49-2	µg/L	10	**0.570 J**	**5.76**	**0.210 J**	**0.340 J**	3.00 U	**0.220 J**	**0.340 J**
Silver, Dissolved	7440-22-4	µg/L	9.4	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U	0.400 U
Sodium, Dissolved	7440-23-5	µg/L	--	**186000**	**99400**	**616000**	**347000**	**631000**	**624000**	**302000**
Thallium, Dissolved	7440-28-0	µg/L	0.02	**0.430 J**	**0.200 J**	0.400 U	0.400 U	0.400 U	0.400 U	**0.150 J**
Vanadium, Dissolved	7440-62-2	µg/L	8.6	4.00 U	4.00 U	4.00 U	**1.20 J**	**0.510 J**	4.00 U	**0.640 J**
Zinc, Dissolved	7440-66-6	µg/L	600	**12.0 J**	8.00 U	**15.0 J**	8.00 U	10.0 U	**6.20 J**	**13**
General Chemistry										
Hardness (as CaCO3)	471-34-1	µg/L	--	**266000**	**362000**	**135000**	**43700**	**460000**	**467000**	**271000**

Notes:

1. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

2. Screening levels are the USEPA RSLs for tapwater. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

3. Screening level is for chromium III.

4. Screening level is for mercuric chloride.

Detected concentrations are bolded.

Detected concentrations exceeding the tapwater RSLs are bolded and shaded yellow.

Acronymns and Abbreviations:

-- = not available or not analyzed.

CASRN = Chemical Abstracts Service Registry Number.

LOD = limit of detection.

RSL = Regional Screening Level.

µg/L = micrograms per liter.

Qualifier Definitions:

U = The analyte was not detected and was reported as less than the LOD.

J = The reported result was an estimated value.

UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.

R = The data validator flagged the data with “X” qualifiers due to significant QC deficiencies in the laboratory analysis of the samples. The project team performed data usability assessment and recommended these data to be rejected/ are not usable (“R” qualifiers).

Reference:

USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-4c
Groundwater Analytical Results - Metals
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW15		NHFLA-MW16 (upgradient)	
			Sample ID[1]	NHFLA-MW15-SEP2020	NHFLA-MW15-DEC2020	NHFLA-MW16-SEP2020	NHFLA-MW16-DEC2020
			Sampling Date	25-Sep-20	17-Dec-20	24-Sep-20	15-Dec-20
			Tapwater RSL[2]				
Metals (Total)							
Aluminum	7429-90-5	µg/L	2000	100 U	**216**	**351**	100 U
Antimony	7440-36-0	µg/L	0.78	0.500 U	**0.120 J**	0.500 U	**0.140 J**
Arsenic	7440-38-2	µg/L	0.052	4.00 U	4.00 U	**9.9**	**18**
Barium	7440-39-3	µg/L	380	**20.4**	**15.1**	**626**	**676**
Beryllium	7440-41-7	µg/L	2.5	0.200 U	0.200 U	0.200 U	0.200 U
Cadmium	7440-43-9	µg/L	0.92	0.200 U	0.200 U	**0.687 J**	**0.0310 J**
Calcium	7440-70-2	µg/L	--	**55600**	**44400**	**482000**	**522000**
Chromium[3]	7440-47-3	µg/L	2200	**0.290 J**	4.00 U	**1.50 J**	4.00 U
Cobalt	7440-48-4	µg/L	0.6	1.00 U	1.00 U	**19.1**	**10.7**
Copper	7440-50-8	µg/L	80	2.00 U	2.00 U	**5.60 J**	2.00 U
Iron	7439-89-6	µg/L	1400	**54.0 J**	**370**	**14600**	**43600**
Lead	7439-92-1	µg/L	15	0.500 U	**0.100 J**	1.00 U	**0.150 J**
Magnesium	7439-95-4	µg/L	--	**4170**	**3980**	**103000**	**97300**
Manganese	7439-96-5	µg/L	43	**40.2**	**38.8**	**4670**	**5620**
Mercury[4]	7439-97-6	µg/L	0.57	0.100 U	0.100 U	0.100 U	0.100 U
Nickel	7440-02-0	µg/L	39	**3.79**	**2.44**	**42.5**	**15.6**
Potassium	7440-09-7	µg/L	--	**4240**	**2840**	**130000**	**200000**
Selenium	7782-49-2	µg/L	10	**0.720 J**	**0.530 J**	**0.690 J**	**0.640 J**
Silver	7440-22-4	µg/L	9.4	0.400 U	0.400 U	0.400 U	0.400 U
Sodium	7440-23-5	µg/L	--	**81200**	**70800**	**315000**	**268000**
Thallium	7440-28-0	µg/L	0.02	0.400 U	**0.0840 J**	**0.824 J**	0.400 U
Vanadium	7440-62-2	µg/L	8.6	**1.90 J**	**1.40 J**	**6.93**	**13.2**
Zinc	7440-66-6	µg/L	600	8.00 U	8.00 U	**9.30 J**	**4.80 J**

Table 4-4c
Groundwater Analytical Results - Metals
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Constituent	CASRN	Units	Location	NHFLA-MW15		NHFLA-MW16 (upgradient)	
			Sample ID[1]	NHFLA-MW15-SEP2020	NHFLA-MW15-DEC2020	NHFLA-MW16-SEP2020	NHFLA-MW16-DEC2020
			Sampling Date	25-Sep-20	17-Dec-20	24-Sep-20	15-Dec-20
			Tapwater RSL[2]				
Metals (Dissolved)							
Aluminum, Dissolved	7429-90-5	µg/L	2000	40.0 U	40.0 U	40.0 U	100 U
Antimony, Dissolved	7440-36-0	µg/L	0.78	0.500 U	**0.140 J**	0.500 U	**0.180 J**
Arsenic, Dissolved	7440-38-2	µg/L	0.052	4.00 U	4.00 U	**4.30 J**	**17**
Barium, Dissolved	7440-39-3	µg/L	380	**20.5**	**13.8**	**415**	**691**
Beryllium, Dissolved	7440-41-7	µg/L	2.5	0.200 U	0.200 U	0.200 U	0.200 U
Cadmium, Dissolved	7440-43-9	µg/L	0.92	0.200 U	0.200 U	**0.473 J**	0.200 U
Calcium, Dissolved	7440-70-2	µg/L	--	**55800**	**45100**	**464000**	**545000**
Chromium, Dissolved[3]	7440-47-3	µg/L	2200	**0.350 J**	**0.350 J**	4.00 U	4.00 U
Chromium, Hexavalent, Diss	18540-29-9	mg/L	0.000035	**R**	0.0125 U	0.0125 UJ	0.0125 U
Cobalt, Dissolved	7440-48-4	µg/L	0.6	1.00 U	1.00 U	**17.7**	**10.3**
Copper, Dissolved	7440-50-8	µg/L	80	3.00 U	2.00 U	**4.88 J**	2.00 U
Iron, Dissolved	7439-89-6	µg/L	1400	**25.0 J**	**120**	**391**	**43900**
Lead, Dissolved	7439-92-1	µg/L	15	0.500 U	0.500 U	0.500 U	0.500 U
Magnesium, Dissolved	7439-95-4	µg/L	--	**4190**	**3920**	**99400**	**101000**
Manganese, Dissolved	7439-96-5	µg/L	43	**39.7**	**36.3**	**4470**	**5760**
Mercury, Dissolved[4]	7439-97-6	µg/L	0.063	0.100 U	0.100 U	0.100 U	0.100 U
Nickel, Dissolved	7440-02-0	µg/L	39	**3.72**	**3.13**	**39.5**	**15.7**
Potassium, Dissolved	7440-09-7	µg/L	--	**4220**	**2810**	**125000**	**216000**
Selenium, Dissolved	7782-49-2	µg/L	10	**0.800 J**	**0.650 J**	**0.490 J**	**0.670 J**
Silver, Dissolved	7440-22-4	µg/L	9.4	0.400 U	0.400 U	0.400 U	0.400 U
Sodium, Dissolved	7440-23-5	µg/L	--	**82200**	**71200**	**303000**	**274000**
Thallium, Dissolved	7440-28-0	µg/L	0.02	0.400 U	**0.0780 J**	**0.700 J**	0.400 U
Vanadium, Dissolved	7440-62-2	µg/L	8.6	**2.10 J**	**0.640 J**	**2.60 J**	**10.8**
Zinc, Dissolved	7440-66-6	µg/L	600	8.00 U	8.00 U	10.0 U	8.00 U
General Chemistry							
Hardness (as CaCO3)	471-34-1	µg/L	--	**156000**	**127000**	**1630000**	**1700000**

Notes:

1. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

2. Screening levels are the USEPA RSLs for tapwater. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

3. Screening level is for chromium III.

4. Screening level is for mercuric chloride.

Detected concentrations are bolded.

Detected concentrations exceeding the tapwater RSLs are bolded and shaded yellow.

Acronymns and Abbreviations:

-- = not available or not analyzed.

CASRN = Chemical Abstracts Service Registry Number.

LOD = limit of detection.

RSL = Regional Screening Level.

µg/L = micrograms per liter.

Qualifier Definitions:

U = The analyte was not detected and was reported as less than the LOD.

J = The reported result was an estimated value.

UJ = The analyte was not detected and was reported as less than the LOD as an estin

R = The data validator flagged the data with “X” qualifiers due to significant QC deficiencies in the laboratory analysis of the samples.
The project team performed data usability assessment and recommended these data to be rejected/ are not usable (“R” qualifiers).

Reference:

USEPA. 2021. Regional Screening Level (RSL) Summary Table. May 2021. Available at: https://semspub.epa.gov/work/HQ/400750.pdf.

Table 4-5a
Surface Soil (0 to 1 foot bgs) Background Threshold Values
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Analyte[1]	FOD	Distribution[2]	Min Detect	Max Detect	95/95 UTL[3]	UTL Method[3]	Minimum Coverage[4]	Final BTV[5]		NYS Background[6]	
								Value	Basis	95th Perc.	Maximum
Semi-Volatile Organic Compounds (SVOCs) (µg/kg)											
2-Methylnaphthalene	0 / 16 (0%)	--	--	--	--	--	--	--	--	<16	<27
Acenaphthene	1 / 16 (6.3%)	--	11.0	11.0	--	--	--	11.0	Max (a)	<20	<35
Acenaphthylene	0 / 16 (0%)	--	--	--	--	--	--	--	--	<36	110
Anthracene	3 / 16 (19%)	--	1.6	17.0	--	--	--	17.0	Max (a)	<35	120
Benzo(a)anthracene	14 / 16 (88%)	NP	2.3	56.0	56.0	NP 95/95UTL KM	0.829	56.0	95UTL	72	500
Benzo(a)pyrene	15 / 16 (94%)	NP	5.9	43.0	43.0	NP 95/95UTL	0.829	43.0	95UTL	41	470
Benzo(b)fluoranthene	13 / 16 (81%)	Ln	5.3	77.0	89.4	Lognormal 95/95UTL KM	--	77.0	Max (b)	110	590
Benzo(g,h,i)perylene	12 / 16 (75%)	Ln	3.1	24.0	23.8	Lognormal 95/95UTL KM	--	23.8	95UTL	<62***	200
Benzo(k)fluoranthene	12 / 16 (75%)	NP	5.0	24.0	24.0	NP 95/95UTL KM	0.829	24.0	95UTL	<54***	330
Chrysene	14 / 16 (88%)	G,Ln	4.0	54.0	46.7	Gamma WH 95/95UTL KM	--	46.7	95UTL	100	610
Dibenz(a,h)anthracene	6 / 16 (38%)	NP	2.4	7.9	14.0	NP 95/95UTL KM	0.829	7.9	Max (b)	<27	<46
Fluoranthene	13 / 16 (81%)	NP	6.0	160	160	NP 95/95UTL KM	0.829	160	95UTL	130	1,200
Fluorene	1 / 16 (6.3%)	--	10.0	10.0	--	--	--	10.0	Max (a)	<33	87.0
Indeno(1,2,3-cd)pyrene	12 / 16 (75%)	G,Ln	3.2	26.0	22.1	Gamma WH 95/95UTL KM	--	22.1	95UTL	<34	180
Naphthalene	0 / 16 (0%)	--	--	--	--	--	--	--	--	12	24.0
Phenanthrene	12 / 16 (75%)	NP	3.7	130	130	NP 95/95UTL KM	0.829	130	95UTL	72	770
Pyrene	13 / 16 (81%)	Ln	4.6	100	97.0	Lognormal 95/95UTL KM	--	97.0	95UTL	170	1,100
Inorganics (mg/kg)											
Aluminum	16 / 16 (100%)	N,G,Ln	12,200	23,400	24,397	Normal 95/95UTL	--	23,400	Max (b)	14,000	17,000
Antimony	7 / 15 (47%)	NP	0.084	0.96	1.1	NP 95/95UTL	0.829	0.96	Max (b)	<1.2***	<2.7***
Arsenic	16 / 16 (100%)	N,G,Ln	7.3	21.3	23.3	Normal 95/95UTL	--	21.3	Max (b)	10.0	14.0
Barium	16 / 16 (100%)	N,G,Ln	64.0	122	146	Normal 95/95UTL	--	122	Max (b)	126	312
Beryllium	16 / 16 (100%)	N,G,Ln	0.60	1.9	1.6	Normal 95/95UTL	--	1.6	95UTL	0.90	1.1
Cadmium	16 / 16 (100%)	N,G,Ln	0.35	1.3	1.5	Normal 95/95UTL	--	1.3	Max (b)	1.9	2.7
Calcium	16 / 16 (100%)	Ln	1,150	77,900	40,484	Lognormal 95/95UTL	--	40,500	95UTL	7,010	46,400
Chromium	16 / 16 (100%)	N,G,Ln	16.4	24.8	26.9	Normal 95/95UTL	--	24.8	Max (b)	17.0	22.0
Chromium VI	2 / 15 (13%)	--	0.25	0.72	--	--	--	0.72	Max (a)	--	--
Cobalt	16 / 16 (100%)	N,G,Ln	6.5	17.5	19.2	Normal 95/95UTL	--	17.5	Max (b)	11.0	14.8
Copper	16 / 16 (100%)	N,G,Ln	10.7	36.9	40.5	Normal 95/95UTL	--	36.9	Max (b)	26.0	61.0
Iron	16 / 16 (100%)	N,G,Ln	21,300	47,600	49,764	Normal 95/95UTL	--	47,600	Max (b)	22,400	27,600
Lead	16 / 16 (100%)	N	11.5	38.1	43.7	Normal 95/95UTL	--	38.1	Max (b)	63.0	75.0
Magnesium	16 / 16 (100%)	NP	1,780	8,980	8,980	NP 95/95UTL	0.829	8,980	95UTL	4,110	7,790
Manganese	16 / 16 (100%)	N,G,Ln	201	773	912	Normal 95/95UTL	--	773	Max (b)	1,030	1,760
Mercury	16 / 16 (100%)	N,G,Ln	0.035	0.15	0.16	Normal 95/95UTL	--	0.15	Max (b)	0.14	0.27
Nickel	16 / 16 (100%)	N,G,Ln	19.1	44.8	49.0	Normal 95/95UTL	--	44.8	Max (b)	22.0	26.0
Potassium	16 / 16 (100%)	N,G,Ln	1,180	2,210	2,567	Normal 95/95UTL	--	2,210	Max (b)	--	--
Selenium	16 / 16 (100%)	N,G,Ln	0.87	2.4	2.7	Normal 95/95UTL	--	2.4	Max (b)	3.3	5.7
Silver	14 / 16 (88%)	G, Ln	0.059	1.1	1.8	Gamma WH 95/95UTL KM	--	1.1	Max (b)	0.4*	1.3
Sodium	7 / 16 (44%)	G, Ln	53.1	112	109	Gamma WH 95/95UTL KM	--	109	95UTL	<179***	269
Thallium	7 / 16 (44%)	NP	0.14	1.1	1.1	NP 95/95UTL KM	0.829	1.1	95UTL	--	--
Vanadium	16 / 16 (100%)	N,G,Ln	26.6	64.6	67.3	Normal 95/95UTL	--	64.6	Max (b)	26.0	38.0
Zinc	16 / 16 (100%)	N,G,Ln	81.7	255	273	Normal 95/95UTL	--	255	Max (b)	115	180

Abbreviations:

95/95 UTL = one-sided 95 percent upper confidence limit for the 95th percentile
BTV = background threshold value
FOD = frequency of detection
ft bgs = feet below ground surface
G = gamma
KM = Kaplan-Meier
Ln = lognormal
mg/kg = milligrams per kilogram
N = normal
NP = nonparametric
Perc. = percentile
-- = insufficient data for calculating statistics
Max (a) = insufficient data for calculating UTL; BTV is based on the maximum
Max (b) = 95UTL is greater than the maximum; BTV is based on the maximum
UTL = upper tolerance limit
µg/kg = micrograms per kilogram
WH = Wilson Hilferty

Notes:

1 Statistics are provided for full datasets. Potential statistical outliers identified in the dataset are presented in Table J-2.

2 Distribution assessed by goodness-of-fit tests based on detected values only conducted using ProUCL 5.1.002 at a 95% confidence level (α = 0.05).
Distribution for BTV selected according to the following hierarchy: normal > gamma > lognormal > nonparametric.

3 UTLs only calculated for analytes with at least 8 total observations and 5 detected observations (USEPA, 2015).

4 For nonparametric UTLs, the achieved minimum coverage with 95% confidence is provided (USEPA 2009, Table 17-4).

5 Final BTV selected in accordance with decision tree presented in Table J-3.
Notes indicate basis for BTV: UTL = 95/95 UTL; Max = maximum detected concentration; ND = BTV not defined because FOD=0%.
Values less than 10 are reported to 2 significant figures. Values greater than 10 are reported to 3 significant figures.

6 New York State soil background are 95th percentiles and maximums for source-distant samples collected as part of rural soil survey (NYSDEC, 2005).
< # = value is non-detect and value shown is method detection limit.
*Actual detected value; other non-detected readings had higher values.
***Actual non-detected value; other detected readings had lower values.

References:

NYSDEC. 2005. Concentrations of Selected Analytes in Rural New York State Surface Soils: A Summary Report on the Sitewide Rural Soil Survey.
USEPA. 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance. Office of Resource Conservation and Recovery. EPA 530-R-09-007. March.
USEPA. 2015. ProUCL Version 5.1.002 Technical Guide. Office of Research and Development. EPA/600/R-07/041. October.

Table 4-5b
Shallow Sub-Surface Soil (1 to 3 feet bgs) Background Threshold Values
Former Nike BU 51/52, Launch Area Remedial Investigation
Hamburg, New York

Analyte[1]	FOD	Distribution[2]	Min Detect	Max Detect	95/95 UTL[3]	UTL Method[3]	Minimum Coverage[4]	Final BTV[5]		NYS Background[6]	
								Value	Basis	95th Perc.	Maximum
Semi-Volatile Organic Compounds (SVOCs) (µg/kg)											
2-Methylnaphthalene	0 / 16 (0%)	--	--	--	--	--	--	--	--	<16	<27
Acenaphthene	1 / 16 (6.3%)	--	5.2	5.2	--	--	--	5.2	Max (a)	<20	<35
Acenaphthylene	1 / 16 (6.3%)	--	2.2	2.2	--	--	--	2.2	Max (a)	<36	110
Anthracene	3 / 16 (19%)	--	1.4	9.6	--	--	--	9.6	Max (a)	<35	120
Benzo(a)anthracene	7 / 16 (44%)	NP	2.3	74.0	74.0	NP 95/95UTL KM	0.829	74.0	95UTL	72	500
Benzo(a)pyrene	5 / 16 (31%)	NP	5.2	88.0	88.0	NP 95/95UTL KM	0.829	88.0	95UTL	41	470
Benzo(b)fluoranthene	8 / 16 (50%)	G	3.3	100	59.8	Gamma WH 95/95UTL	--	59.8	95UTL	110	590
Benzo(g,h,i)perylene	5 / 16 (31%)	NP	2.8	55.0	55.0	NP 95/95UTL KM	0.829	55.0	95UTL	<62***	200
Benzo(k)fluoranthene	3 / 16 (19%)	--	12.0	56.0	--	--	--	56.0	Max (a)	<54***	330
Chrysene	16 / 16 (100%)	Ln	2.1	94.0	59.0	Lognormal 95/95UTL	--	59.0	95UTL	100	610
Dibenz(a,h)anthracene	4 / 16 (25%)	--	4.4	20.0	--	--	--	20.0	Max (a)	<27	<46
Fluoranthene	8 / 16 (50%)	NP	2.1	150	150	NP 95/95UTL KM	0.829	150.0	95UTL	130	1,200
Fluorene	1 / 16 (6.3%)	--	6.2	6.2	--	--	--	6.2	Max (a)	<33	87.0
Indeno(1,2,3-cd)pyrene	4 / 16 (25%)	--	2.3	67.0	--	--	--	67.0	Max (a)	<34	180
Naphthalene	0 / 16 (0%)	--	--	--	--	--	--	--	--	12	24.0
Phenanthrene	10 / 16 (63%)	NP	2.1	70.0	70.0	NP 95/95UTL KM	0.829	70.0	95UTL	72	770
Pyrene	7 / 16 (44%)	NP	4.6	150	150	NP 95/95UTL KM	0.829	150.0	95UTL	170	1,100
Inorganics (mg/kg)											
Aluminum	16 / 16 (100%)	N,G	8,620	17,800	20,004	Normal 95/95UTL	--	17,800	Max (b)	14,000	17,000
Antimony	6 / 16 (38%)	NP	0.21	1.2	1.2	NP 95/95UTL	0.829	1.2	95UTL	<1.2***	<2.7***
Arsenic	16 / 16 (100%)	N,G,Ln	5.6	19.3	23.3	Normal 95/95UTL	--	19.3	Max (b)	10.0	14.0
Barium	16 / 16 (100%)	N,G,Ln	34.4	108	132	Normal 95/95UTL	--	108	Max (b)	126	312
Beryllium	16 / 16 (100%)	N,G,Ln	0.53	1.0	1.0	Normal 95/95UTL	--	1.0	Max (b)	0.90	1.1
Cadmium	16 / 16 (100%)	G,Ln	0.061	2.9	3.9	Gamma WH 95/95UTL	--	2.9	Max (b)	1.9	2.7
Calcium	16 / 16 (100%)	G,Ln	934	84,000	118,092	Gamma WH 95/95UTL	--	84,000	Max (b)	7,010	46,400
Chromium	16 / 16 (100%)	N,G,Ln	11.6	22.1	24.3	Normal 95/95UTL	--	22.1	Max (b)	17.0	22.0
Chromium VI	6 / 16 (38%)	NP	0.18	0.42	0.73	NP 95/95UTL	0.829	0.42	Max (b)	--	--
Cobalt	16 / 16 (100%)	N,G,Ln	5.5	20.7	21.5	Normal 95/95UTL	--	20.7	Max (b)	11.0	14.8
Copper	16 / 16 (100%)	N,G,Ln	16.1	52.2	57.5	Normal 95/95UTL	--	52.2	Max (b)	26.0	61.0
Iron	16 / 16 (100%)	N,G,Ln	18,200	54,200	52,204	Normal 95/95UTL	--	52,200	95UTL	22,400	27,600
Lead	16 / 16 (100%)	N,G,Ln	9.6	31.8	32.6	Normal 95/95UTL	--	31.8	Max (b)	63.0	75.0
Magnesium	16 / 16 (100%)	Ln	2,000	10,850	12,480	Lognormal 95/95UTL	--	10,900	Max (b)	4,110	7,790
Manganese	16 / 16 (100%)	Ln	95.6	2,790	2,410	Lognormal 95/95UTL	--	2,410	95UTL	1,030	1,760
Mercury	16 / 16 (100%)	N,G,Ln	0.018	0.13	0.14	Normal 95/95UTL	--	0.13	Max (b)	0.14	0.27
Nickel	16 / 16 (100%)	N,G,Ln	23.3	77.0	86.0	Normal 95/95UTL	--	77.0	Max (b)	22.0	26.0
Potassium	16 / 16 (100%)	N,G,Ln	1,130	2,765	2,686	Normal 95/95UTL	--	2,690	95UTL	--	--
Selenium	16 / 16 (100%)	G,Ln	0.68	3.5	3.8	Gamma WH 95/95UTL	--	3.5	Max (b)	3.3	5.7
Silver	9 / 16 (56%)	NP	0.10	1.1	1.1	NP 95/95UTL	0.829	1.1	95UTL	0.4*	1.3
Sodium	9 / 16 (56%)	N,G,Ln	49.1	130	138	Normal 95/95UTL KM	--	130	Max (b)	<179***	269
Thallium	11 / 16 (69%)	N,G,Ln	0.26	1.2	1.4	Normal 95/95UTL KM	--	1.2	Max (b)	--	--
Vanadium	16 / 16 (100%)	N,G,Ln	22.5	45.6	49.1	Normal 95/95UTL	--	45.6	Max (b)	26.0	38.0
Zinc	16 / 16 (100%)	N,G,Ln	65.8	366	362	Normal 95/95UTL	--	362	95UTL	115	180

Abbreviations:

95/95 UTL = one-sided 95 percent upper confidence limit for the 95th percentile
BTV = background threshold value
FOD = frequency of detection
ft bgs = feet below ground surface
G = gamma
HW = Hawkins Wixley
KM = Kaplan-Meier
Ln = lognormal
mg/kg = milligrams per kilogram
N = normal
NP = nonparametric
Perc. = percentile
-- = insufficient data for calculating statistics
Max (a) = insufficient data for calculating UTL; BTV is based on the maximum
Max (b) = 95UTL is greater than the maximum; BTV is based on the maximum
UTL = upper tolerance limit
ug/kg = micrograms per kilogram
WH = Wilson Hilferty

Notes:

1 Statistics are provided for full datasets. Potential statistical outliers identified in the dataset are presented in Table J-2.

2 Distribution assessed by goodness-of-fit tests based on detected values only conducted using ProUCL 5.1.002 at a 95% confidence level (α = 0.05).
Distribution for BTV selected according to the following hierarchy: normal > gamma > lognormal > nonparametric.

3 UTLs only calculated for analytes with at least 8 total observations and 5 detected observations (USEPA, 2015).

4 For nonparametric UTLs, the achieved minimum coverage with 95% confidence is provided (USEPA 2009, Table 17-4).

5 Final BTV selected in accordance with decision tree presented in Table J-3.
Notes indicate basis for BTV: UTL = 95/95 UTL; Max = maximum detected concentration; ND = BTV not defined because FOD=0%.
Values less than 10 are reported to 2 significant figures. Values greater than 10 are reported to 3 significant figures.

6 New York State soil background are 95th percentiles and maximums for source-distant samples collected as part of rural soil survey (NYSDEC, 2005).
< # = value is non-detect and value shown is method detection limit.
*Actual detected value; other non-detected readings had higher values.
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References:

NYSDEC. 2005. Concentrations of Selected Analytes in Rural New York State Surface Soils: A Summary Report on the Sitewide Rural Soil Survey.
USEPA. 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance. Office of Resource Conservation and Recovery. EPA 530-R-09-007. March.
USEPA. 2015. ProUCL Version 5.1.002 Technical Guide. Office of Research and Development. EPA/600/R-07/041. October.

Table 6-1
Observed and Typical Vegetation Species by Cover Type
Former Nike BU 51/52 Launch Area Remedial Investigation
Hamburg, NY

Common Name	Scientific Name	Successional Southern Hardwood Forest	Successional Old Field	Intermittent Drainage Ditch	Emergent Wetland
Box elder	*Acer negundo*	X			
Black cherry	*Prunus serotina*	X			
Bulrush	*Scirpus spp.*		X	X	X
Cattail	*Typha spp*			X	X
Common dandelion	*Taraxacum officinale*		X		
Common reed	*Phragmites australis*		X	X	X
Cottonwood	*Populus deltoides*	X			
Crab-apple tree	*Malus sylvestris*	X	X		
Goldenrod	*Solidago spp.*		X		
Honeysuckle	*Lonicera spp.*	X			
Japanese knotweed	*Reynoutria japonica*	X		X	X
Maple Sp.	*Acer spp.*	X			
Pussy willow	*Sailx dicolor*				X
Reed canary grass	*Phalaris arundinacea*		X	X	X
Red oak	*Quercus rubra*	X			
Red osier dogwood	*Cornus sericia*	X	X		
Rice cutgrass	*Leersia oryzoides*		X	X	X
Sumac	*Rhus spp.*	X			
Sweet vernal grass	*Anthoxanthum odoratum*		X		
Thistle	*Cirsium spp.*		X		
Timothy grass	*Phleum pratense*		X		

Notes:
1. Cover types not included in this table (i.e., Residential/Commercial/Industrial) have limited vegetative communities.

Table 6-2
Observed and Typical Wildlife Species by Cover Type
Former Nike BU 51/52 Launch Area Remedial Investigation
Hamburg, NY

Common Name	Scientific Name	Successional Southern Hardwood Forest	Successional Old Field	Intermittent Drainage Ditch	Emergent Wetland
Mammals					
American red squirrel	*Tamiasciurus hudsonicus*	T	-	-	-
Coyote	*Canis latrans*	T	O	-	-
Eastern gray squirrel	*Sciurus carolinensis*	O	O	-	-
Eastern cottontail	*Sylvilagus floridanus*	T	T	-	-
Eastern chipmunk	*Tamias striatus*	T	-	-	-
Mice	*Peromyscus spp., Mus musculus*	T	T	-	-
Raccoon	*Procyon lotor*	O	-	T	T
Red fox	*Vulpes vulpes*	O	T	-	-
Short-tailed shrew	*Sorex spp.*	T	T	-	-
Striped skunk	*Metphitis mephitis*	T	T	-	-
Voles	*Microtus spp.*	T	T	-	-
White-tailed deer	*Odocoileus virginianus*	O	O	-	-
Woodchuck	*Marmota monax*	O	O	-	-
Birds					
American bittern	*Botaurus lentiginosus*	-	-	O	-
American crow	*Corvus brachyrhynchos*	O	O	-	-
American goldenfinch	*Spinus tristis*	T	O	-	-
American robin	*Turdus migratorius*	T	O	-	-
Baltimore oriole	*Icterus galbula*	T	O	-	-
Black-capped chickadee	*Parus atricapillus*	O	O	-	-
Blue jay	*Cyanocitta cristata*	O	O	-	-
Canada goose	*Branta canadensis*	-	O	O	T
Coopers hawk	*Accipiter cooperii*	T	T	-	-
Common grackle	*Quiscalus quiscula*	O	O	-	-
Cormorant	*Phalacrocoracidae spp.*	-	-	O	-
Downy woodpecker	*Picoides pubescens*	T	-	-	-
Eastern bluebird	*Sialia sialis*	-	T	-	-
Eastern towhee	*Pipilo erythrophthalmus*	-	T	-	-
Field sparrow	*Spizella pusilla*	-	O	-	-
Flycatcher	*Tyrannidae spp.*	-	O	-	-
Gray catbird	*Dumetella carolinensis*	-	O	-	-
Goldfinch	*Carduelis tristis*	-	O	-	-
Great blue heron	*Ardea herodius*	-	-	O	O
House finch	*Carpodacus mexicanus*	T	T	-	-
House wren	*Troglodytes aedon*	T	T	-	-
Indigo bunting	*Passerina cyanea*	-	T	-	-
Killdeer	*Charadrius vociferus*	-	O	-	-
Mallard	*Anas platyrhynchos*	-	-	O	O
Northern cardinal	*Cardinalis cardinalis*	T	T	-	-
Mourning dove	*Zenaida macroura*	O	O	-	-
Prairie warbler	*Setophaga discolor*	-	O	-	-
Red-tailed hawk	*Buteo jamaicensis*	T	O	-	-
Red-winged blackbird	*Agelaius phoeniceus*	-	-	O	O
Ring-billed gull	*Larus delawarensis*	-	-	O	-
Sparrow	*Spizella spp.*	O	O	-	-
Turkey vulture	*Cathartes aura*	-	O	-	-
Wild turkey	*Meleagris gallopavo*	O	O	-	-
Wood duck	*Aix sponsa*	-	-	O	O
Reptiles and Amphibians					
American bullfrog	*Rana catesbeiana*	-	-	T	T
American toad	*Bufo americanus*	T	T	-	-
Eastern garter snake	*Thamnophis sirtalis sirtalis*	T	T	-	-
Northern leopard frog	*Rana pipiens*	-	-	T	T
Northern water snake	*Nerodia sipedon*	-	-	T	T
Spring peeper	*Pseudacris crucifer*	-	-	T	T

Notes:
1. Cover types not included in this table (i.e., Residential/Commercial/Industrial) have limited vegetative communities.
2. Species observations include direct observation, fly-overs, calls, prints, or scat.
- = Species not expected to utilize cover type.
O = Species observed during the wildlife survey.
T = Typical species that may be present, but not observed during wildlife survey.

Table 6-3
Summary of Soil Sample Locations Considered in the SLERA
Former Nike BU 51/52 Launch Area Remedial Investigation
Hamburg, NY

Location	Cover Type	Soil Data Included in the SLERA[1]
NHFLA-MW1OB	Residential/Commercial/Industrial - Maintained lawn	Yes
NHFLA-MW2	Residential/Commercial/Industrial - Maintained lawn	Yes
NHFLA-MW3	Residential/Commercial/Industrial - Maintained lawn	Yes
NHFLA-MW4OB	Residential/Commercial/Industrial - Maintained lawn	Yes
NHFLA-MW5OB	Residential/Commercial/Industrial - Maintained lawn	Yes
NHFLA-MW6	Residential/Commercial/Industrial - Maintained lawn	Yes
NHFLA-MW7OB	Residential/Commercial/Industrial - Maintained lawn	Yes
NHFLA-MW8	Residential/Commercial/Industrial - Maintained lawn	Yes
NHFLA-MW9OB	Residential/Commercial/Industrial - Maintained lawn	Yes
NHFLA-MW10	Residential/Commercial/Industrial - Maintained lawn	Yes
NHFLA-MW13	Residential/Commercial/Industrial - Maintained lawn	Yes
NHFLA-MW14	Residential/Commercial/Industrial - Maintained lawn	Yes
NHFLA-MW15	Residential/Commercial/Industrial - Maintained lawn	Yes
NHFLA-SL11A	Residential/Commercial/Industrial - Maintained lawn	Yes
NHFLA-SL25	Residential/Commercial/Industrial - Maintained lawn	Yes
NHFLA-SL26	Residential/Commercial/Industrial - Maintained lawn	Yes
NHFLA-SL27	Residential/Commercial/Industrial - Maintained lawn	Yes
NHFLA-SL28	Residential/Commercial/Industrial - Maintained lawn	Yes
NHFLA-SL29	Successional old field	Yes
NHFLA-SL31	Residential/Commercial/Industrial - Maintained lawn	Yes

Notes:
1. The Screening Level Ecological Risk Assessment (SLERA) included soil data from successional old field locations. Data from maintained lawns were also included as a conservative assumption, despite these areas not providing natural habitat. Data from gravel areas were excluded from the SLERA.

Table 6-4
Soil Data Considered in the SLERA
Former Nike BU 51/52 Launch Area Remedial Investigation
Hamburg, NY

		Location ID	NHFLA-MW1OB	NHFLA-MW2	NHFLA-MW3	NHFLA-MW4OB	NHFLA-MW5OB	NHFLA-MW6	NHFLA-MW7OB	NHFLA-MW8	NHFLA-MW9OB	NHFLA-MW10	NHFLA-MW13	NHFLA-MW14
		Sample ID [1]	NHFLA-MW1OB-A-AUG2020	NHFLA-MW2-A-AUG2020	NHFLA-MW3-A-AUG2020	NHFLA-MW4OB-A-SEP2020	NHFLA-MW5OB-A-AUG2020	NHFLA-MW6-A-AUG2020	NHFLA-MW7OB-A-AUG2020	NHFLA-MW8-A-SEP2020	NHFLA-MW9OB-A-AUG2020	NHFLA-MW10-A-AUG2020	NHFLA-MW13-A-AUG2020	NHFLA-MW14-A-SEP2020
		Sample Type [2]	N	N	N [FD]	N	N	N	N	N	N	N	N	N
		Sample Date	8/19/2020	8/24/2020	8/31/2020	9/1/2020	8/18/2020	8/26/2020	8/20/2020	9/1/2020	8/20/2020	8/25/2020	8/27/2020	9/2/2020
		Start Depth (ft bgs)	0	0	0	0	0	0	0	0	0	0	0	0
		End Depth (ft bgs)	1	1	1	1	1	1	0.5	0.3	0.4	1	1	1
Constituent	**CASRN**	**Units**												
Inorganics														
Aluminum	7429-90-5	mg/kg	**12700**	**17600**	**7760 J [13400 J]**	**10900**	**13500**	**16800**	**16500**	**14900**	**14800**	**14600**	**6900**	**11200**
Antimony	7440-36-0	mg/kg	0.540 U	1.20 U	**0.530 J [0.440 J]**	**0.560 J**	0.550 U	**0.230 J**	0.530 U	**0.230 J**	0.560 U	0.540 UJ	2.00 U	**0.400 J**
Arsenic	7440-38-2	mg/kg	**7.20**	**16.1**	**6.11 [8.17]**	**13.8**	**7.16**	**9.24**	**6.33**	**3.90**	**9.02**	**9.37**	**8.71**	**8.33**
Barium	7440-39-3	mg/kg	**62.9**	**86.5**	**49.9 J [83.2 J]**	**84.2**	**86.5**	**96.3**	**117**	**136**	**74.0**	**75.1 J**	**42.4**	**53.9**
Beryllium	7440-41-7	mg/kg	**0.604 J**	**0.745 J**	**0.669 [1.13]**	**0.640 J**	**0.712 J**	**1.17**	**2.17**	**1.84 J**	**0.793**	**0.920**	**0.507 J**	**0.532 J**
Cadmium	7440-43-9	mg/kg	**0.733**	**0.130 J**	**0.177 J [0.338 J]**	**0.421 J**	**0.380 J**	**0.578 J**	0.530 U	**0.764**	0.560 U	**0.324 J**	**0.200 J**	**0.535 J**
Calcium	7440-70-2	mg/kg	**61900**	**1510**	**196000 J [62600 J]**	**50600**	**8100**	**19900**	**98300**	**140000**	**9950**	**30500 J**	**98400**	**94600**
Chromium	7440-47-3	mg/kg	**17.8**	**19.4**	**41.2 J [21.7 J]**	**17.4**	**18.1**	**20.9**	**14.0**	**13.9**	**22.1**	**19.7 J**	**14.8**	**17.2**
Chromium, Hexavalent	18540-29-9	mg/kg	**0.800**	0.370 U	0.670 U [0.330 U]	**0.250 J**	1.60 U	0.740 U	**0.380 J**	0.320 U	1.40 U	0.320 U	0.320 U	0.670 U
Cobalt	7440-48-4	mg/kg	**9.26**	**24.7**	**4.17 J [7.14 J]**	**4.90**	**7.90**	**12.0**	**5.39**	**2.57**	**12.1**	**9.18**	**5.40**	**6.41**
Copper	7440-50-8	mg/kg	**30.7**	**17.6**	**19.3 [30.8]**	**36.6**	**20.0**	**26.8**	**22.6**	**18.4**	**31.3**	**26.9**	**30.3**	**21.5**
Iron	7439-89-6	mg/kg	**21600**	**35600**	**12200 [19400]**	**33700**	**23000**	**27200**	**17100**	**23200**	**25300**	**23500 J**	**17500**	**17900**
Lead	7439-92-1	mg/kg	**17.4**	**30.7**	**31.5 [43.2]**	**20.3**	**21.6**	**39.7**	**23.2**	**73.5**	**27.2**	**31.6 J**	**21.2**	**48.4**
Magnesium	7439-95-4	mg/kg	**8280**	**1880**	**6250 [8040]**	**4650**	**2980**	**4770**	**12300**	**14800**	**4720**	**5700**	**6660**	**6770**
Manganese	7439-96-5	mg/kg	**364**	**676**	**622 [811]**	**580**	**428**	**917**	**1610**	**1420**	**475**	**721 J**	**581**	**383**
Mercury	7439-97-6	mg/kg	**0.0420**	**0.0756**	**0.0320 [0.0350]**	**0.0330**	**0.377 J**	**0.0634**	**0.0440**	**0.0180 J**	**0.0661**	**0.0590**	**0.0280**	**0.0460**
Nickel	7440-02-0	mg/kg	**29.9**	**24.6**	**18.5 [28.1]**	**18.8**	**24.2**	**28.8**	**16.9**	**11.0**	**33.1**	**29.1 J**	**21.0**	**19.9**
Potassium	7440-09-7	mg/kg	**2520**	**2280**	**1180 J [1980 J]**	**1580**	**1520**	**2040**	**1900**	**1030**	**2650**	**2290 J**	**1100**	**2080**
Selenium	7782-49-2	mg/kg	**0.650 J**	**2.20 J**	**0.600 J [0.930 J]**	**2.40**	**1.00 J**	**1.60**	**1.60**	**1.20**	**1.30**	**1.30**	2.80 U	**0.850 J**
Silver	7440-22-4	mg/kg	**0.894 J**	**1.51 J**	0.390 U [0.440 U]	**0.300 J**	**0.920 J**	**0.0800 J**	**0.748 J**	**0.260 J**	**0.949 J**	**0.874 J**	**0.400 J**	**0.420 J**
Sodium	7440-23-5	mg/kg	220 U	**1100**	**190 [224]**	**156 J**	**66.8 J**	**538**	**472**	**543**	110 U	**124**	**663**	**363**
Thallium	7440-28-0	mg/kg	**0.360 J**	**1.90 J**	0.490 U [0.550 U]	**0.750 J**	1.10 U	0.610 U	0.530 U	0.520 U	**0.150 J**	**0.170 J**	2.00 U	**1.03 J**
Vanadium	7440-62-2	mg/kg	**23.8**	**47.2**	**14.7 J [25.5 J]**	**23.4**	**31.9**	**31.3**	**19.6**	**12.4**	**26.6**	**29.2 J**	**18.8**	**27.2**
Zinc	7440-66-6	mg/kg	**73.7**	**142**	**78.2 J [133 J]**	**86.6**	**142**	**121**	**631**	**514**	**146**	**119 J**	**198**	**112**
General Chemistry														
Total Organic Carbon	ARC-TOC	µg/g	**16000**	**24000 J**	**42000 [37000]**	**34000**	**39000**	**39000**	**23000 J**	**55000**	**42000**	**26000**	**22000**	**32000**
pH	ARC-pH	pH units	**7.90**	**6.90**	**8.40 [8.40]**	**8.00**	**8.00**	**8.20**	**8.20**	**8.30**	**7.60**	**7.60**	**9.20**	**8.40**

Table 6-4
Soil Data Considered in the SLERA
Former Nike BU 51/52 Launch Area Remedial Investigation
Hamburg, NY

		Location ID	NHFLA-MW1OB	NHFLA-MW2	NHFLA-MW3	NHFLA-MW4OB	NHFLA-MW5OB	NHFLA-MW6	NHFLA-MW7OB	NHFLA-MW8	NHFLA-MW9OB	NHFLA-MW10	NHFLA-MW13	NHFLA-MW14
		Sample ID [1]	NHFLA-MW1OB-A-AUG2020	NHFLA-MW2-A-AUG2020	NHFLA-MW3-A-AUG2020	NHFLA-MW4OB-A-SEP2020	NHFLA-MW5OB-A-AUG2020	NHFLA-MW6-A-AUG2020	NHFLA-MW7OB-A-AUG2020	NHFLA-MW8-A-SEP2020	NHFLA-MW9OB-A-AUG2020	NHFLA-MW10-A-AUG2020	NHFLA-MW13-A-AUG2020	NHFLA-MW14-A-SEP2020
		Sample Type [2]	N	N	N [FD]	N	N	N	N	N	N	N	N	N
		Sample Date	8/19/2020	8/24/2020	8/31/2020	9/1/2020	8/18/2020	8/26/2020	8/20/2020	9/1/2020	8/20/2020	8/25/2020	8/27/2020	9/2/2020
		Start Depth (ft bgs)	0	0	0	0	0	0	0	0	0	0	0	0
		End Depth (ft bgs)	1	1	1	1	1	1	0.5	0.3	0.4	1	1	1
Constituent	**CASRN**	**Units**												
Volatile Organic Compounds (VOCs)														
1,1,1-Trichloroethane	71-55-6	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
1,1,2,2-Tetrachloroethane	79-34-5	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
1,1,2-Trichloroethane	79-00-5	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
1,1-Dichloroethane	75-34-3	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
1,1-Dichloroethene	75-35-4	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
1,2,3-Trichlorobenzene	87-61-6	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
1,2,4-Trichlorobenzene	120-82-1	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
1,2-Dibromo-3-chloropropane	96-12-8	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
1,2-Dibromoethane	106-93-4	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
1,2-Dichlorobenzene	95-50-1	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
1,2-Dichloroethane	107-06-2	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
1,2-Dichloropropane	78-87-5	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
1,3-Dichlorobenzene	541-73-1	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
1,4-Dichlorobenzene	106-46-7	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
2-Butanone	78-93-3	µg/kg	12.0 U	14.0 U	10.0 UJ [13.0 U]	13.0 UJ	13.0 U	11.0 U	12.0 U	12.0 U	18.0 U	12.0 U	11.0 UJ	12.0 UJ
2-Hexanone	591-78-6	µg/kg	12.0 U	14.0 U	10.0 UJ [13.0 U]	13.0 UJ	13.0 U	11.0 U	12.0 U	12.0 U	18.0 U	12.0 U	11.0 UJ	12.0 UJ
4-Methyl-2-pentanone	108-10-1	µg/kg	12.0 U	14.0 U	10.0 UJ [13.0 U]	13.0 UJ	13.0 U	11.0 U	12.0 U	12.0 U	18.0 U	12.0 U	11.0 UJ	12.0 UJ
Acetone	67-64-1	µg/kg	12.0 U	14.0 U	10.0 UJ [13.0 U]	13.0 UJ	13.0 U	11.0 U	12.0 U	12.0 U	**61.0 J**	12.0 U	11.0 UJ	12.0 UJ
Benzene	71-43-2	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
Bromochloromethane	74-97-5	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
Bromodichloromethane	75-27-4	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
Bromoform	75-25-2	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
Bromomethane	74-83-9	µg/kg	4.80 U	5.50 U	4.20 UJ [5.10 U]	5.30 UJ	5.40 U	4.40 U	4.90 U	4.80 U	7.40 U	4.80 U	4.60 UJ	4.60 UJ
Carbon disulfide	75-15-0	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	**3.00 J**	2.40 U	2.30 UJ	2.30 UJ
Carbon tetrachloride	56-23-5	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
Chlorobenzene	108-90-7	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
Chloroethane	75-00-3	µg/kg	4.80 U	5.50 U	4.20 UJ [5.10 U]	5.30 UJ	5.40 U	4.40 U	4.90 U	4.80 U	7.40 U	4.80 U	4.60 UJ	4.60 UJ
Chloroform	67-66-3	µg/kg	2.40 UJ	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 UJ	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
Chloromethane	74-87-3	µg/kg	4.80 U	5.50 U	4.20 UJ [5.10 U]	5.30 UJ	5.40 U	4.40 U	4.90 U	4.80 U	7.40 U	4.80 U	4.60 UJ	4.60 UJ
cis-1,2-Dichloroethene	156-59-2	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
cis-1,3-Dichloropropene	10061-01-5	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
Cyclohexane	110-82-7	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
Dibromochloromethane	124-48-1	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
Dichlorodifluoromethane (CFC-12)	75-71-8	µg/kg	4.80 U	5.50 U	4.20 UJ [5.10 U]	5.30 UJ	5.40 U	4.40 U	4.90 U	4.80 U	7.40 U	4.80 U	4.60 UJ	4.60 UJ
Ethylbenzene	100-41-4	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
Isopropylbenzene	98-82-8	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
m,p-Xylene	108-38-3; 106-42-3	µg/kg	4.80 U	5.50 U	4.20 UJ [5.10 U]	5.30 UJ	5.40 U	4.40 U	4.90 U	4.80 U	7.40 U	4.80 U	4.60 UJ	4.60 UJ
Methyl acetate	79-20-9	µg/kg	2.90 U	3.30 U	2.50 UJ [3.00 U]	3.20 UJ	3.20 U	2.60 U	2.90 U	2.90 U	4.40 U	2.90 U	2.70 UJ	2.80 UJ
Methyl tert-butyl ether	1634-04-4	µg/kg	2.40 UJ	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 UJ	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
Methylcyclohexane	108-87-2	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
Methylene chloride	75-09-2	µg/kg	12.0 UJ	14.0 U	21.0 UJ [25.0 U]	**15.0 J**	13.0 UJ	**12.0 J**	12.0 U	**8.50 J**	**29.0 J**	**8.30 J**	23.0 UJ	12.0 UJ
o-Xylene	95-47-6	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
Styrene	100-42-5	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
Tetrachloroethene	127-18-4	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
Toluene	108-88-3	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	**8.20 J**	2.40 U	2.30 UJ	2.30 UJ
trans-1,2-Dichloroethene	156-60-5	µg/kg	2.40 UJ	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 UJ	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
trans-1,3-Dichloropropene	10061-02-6	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
Trichloroethene	79-01-6	µg/kg	2.40 U	2.70 U	2.10 UJ [2.50 U]	2.60 UJ	2.70 U	2.20 U	2.40 U	2.40 U	3.70 U	2.40 U	2.30 UJ	2.30 UJ
Trichlorofluoromethane (CFC-11)	75-69-4	µg/kg	4.80 U	5.50 U	4.20 UJ [5.10 U]	5.30 UJ	5.40 U	4.40 U	4.90 U	4.80 U	7.40 U	4.80 U	4.60 UJ	4.60 UJ
Vinyl chloride	75-01-4	µg/kg	4.80 U	5.50 U	4.20 UJ [5.10 U]	5.30 UJ	5.40 U	4.40 U	4.90 U	4.80 U	7.40 U	4.80 U	4.60 UJ	4.60 UJ

Table 6-4
Soil Data Considered in the SLERA
Former Nike BU 51/52 Launch Area Remedial Investigation
Hamburg, NY

		Location ID	NHFLA-MW1OB	NHFLA-MW2	NHFLA-MW3	NHFLA-MW4OB	NHFLA-MW5OB	NHFLA-MW6	NHFLA-MW7OB	NHFLA-MW8	NHFLA-MW9OB	NHFLA-MW10	NHFLA-MW13	NHFLA-MW14
		Sample ID [1]	NHFLA-MW1OB-A-AUG2020	NHFLA-MW2-A-AUG2020	NHFLA-MW3-A-AUG2020	NHFLA-MW4OB-A-SEP2020	NHFLA-MW5OB-A-AUG2020	NHFLA-MW6-A-AUG2020	NHFLA-MW7OB-A-AUG2020	NHFLA-MW8-A-SEP2020	NHFLA-MW9OB-A-AUG2020	NHFLA-MW10-A-AUG2020	NHFLA-MW13-A-AUG2020	NHFLA-MW14-A-SEP2020
		Sample Type [2]	N	N	N [FD]	N	N	N	N	N	N	N	N	N
		Sample Date	8/19/2020	8/24/2020	8/31/2020	9/1/2020	8/18/2020	8/26/2020	8/20/2020	9/1/2020	8/20/2020	8/25/2020	8/27/2020	9/2/2020
		Start Depth (ft bgs)	0	0	0	0	0	0	0	0	0	0	0	0
		End Depth (ft bgs)	1	1	1	1	1	1	0.5	0.3	0.4	1	1	1
Constituent	**CASRN**	**Units**												
Semi-Volatile Organic Compounds (SVOCs)														
1,1-Dimethylhydrazine	57-14-7	ng/g	0.100 U	0.0990 UJ	0.100 U [0.100 U]	0.100 U	0.100 U	0.0980 U	0.0990 U	0.0990 UJ	0.100 U	0.100 UJ	0.100 U	0.100 U
Hydrazine	302-01-2	ng/g	0.0500 U	0.0490 UJ	0.0500 U [0.0510 U]	0.0500 U	0.0500 U	0.0490 U	0.0500 U	R	0.0500 U	0.0500 UJ	0.0500 U	0.0500 U
Methyl hydrazine	60-34-4	ng/g	0.100 U	0.0990 UJ	0.100 U [0.100 U]	0.100 U	0.100 U	0.0980 U	0.0990 U	R	0.100 U	0.100 UJ	0.100 U	0.100 U
1,2,4,5-Tetrachlorobenzene	95-94-3	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 U	240 U	280 U	230 U	270 U	270 U
1,1-Biphenyl	92-52-4	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 U	240 U	280 U	230 U	270 U	270 U
1,4-Dioxane	123-91-1	µg/kg	270 U	300 U	250 U [240 U]	280 UJ	300 U	290 U	270 U	240 U	280 U	230 U	270 U	270 U
2,2'-Oxybis(1-chloropropane)	108-60-1	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 U	240 U	280 U	230 U	270 U	270 U
2,4,5-Trichlorophenol	95-95-4	µg/kg	670 U	750 U	630 U [580 U]	700 U	740 U	720 U	660 UJ	600 U	690 U	570 U	660 U	670 U
2,4,6-Trichlorophenol	88-06-2	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 UJ	240 U	280 U	230 U	270 U	270 U
2,4-Dichlorophenol	120-83-2	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 UJ	240 U	280 U	230 U	270 U	270 U
2,4-Dimethylphenol	105-67-9	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 UJ	240 U	280 U	230 U	270 U	270 U
2,4-Dinitrophenol	51-28-5	µg/kg	670 U	750 U	630 U [580 U]	700 U	740 U	720 U	660 UJ	600 U	690 U	570 U	660 U	670 U
2,4-Dinitrotoluene	121-14-2	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 U	240 U	280 U	230 U	270 U	270 U
2,6-Dinitrotoluene	606-20-2	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 U	240 U	280 U	230 U	270 U	270 U
2-Chloronaphthalene	91-58-7	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 U	240 U	280 U	230 U	270 U	270 U
2-Chlorophenol	95-57-8	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 UJ	240 U	280 U	230 U	270 U	270 U
2-Methylphenol	95-48-7	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 UJ	240 U	280 U	230 U	270 U	270 U
2-Nitroaniline	88-74-4	µg/kg	670 U	750 U	630 U [580 U]	700 U	740 U	720 U	660 UJ	600 U	690 U	570 U	660 U	670 U
2-Nitrophenol	88-75-5	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 UJ	240 U	280 U	230 U	270 U	270 U
3,3'-Dichlorobenzidine	91-94-1	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 U	240 U	280 U	230 U	270 U	270 U
3-Nitroaniline	99-09-2	µg/kg	670 UJ	750 U	630 U [580 U]	700 U	740 UJ	720 U	660 U	600 U	690 U	570 U	660 U	670 U
4,6-Dinitro-2-methylphenol	534-52-1	µg/kg	670 U	750 U	630 U [580 U]	700 U	740 U	720 U	660 UJ	600 U	690 U	570 U	660 U	670 U
4-Bromophenyl phenyl ether	101-55-3	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 UJ	240 U	280 U	230 U	270 U	270 U
4-Chloro-3-methylphenol	59-50-7	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 UJ	240 U	280 U	230 U	270 U	270 U
4-Chloroaniline	106-47-8	µg/kg	R	300 U	250 U [240 U]	280 U	R	290 U	270 U	240 U	280 U	230 U	270 U	270 U
4-Chlorophenyl phenyl ether	7005-72-3	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 U	240 U	280 U	230 U	270 U	270 U
4-Nitroaniline	100-01-6	µg/kg	670 U	750 U	630 U [580 U]	700 U	740 U	720 U	660 U	600 U	690 U	570 U	660 U	670 U
4-Nitrophenol	100-02-7	µg/kg	670 U	750 U	630 U [580 U]	700 U	740 U	720 U	660 UJ	600 U	690 U	570 U	660 U	670 U
Acetophenone	98-86-2	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 U	240 U	280 U	230 U	270 U	270 U
Atrazine	1912-24-9	µg/kg	270 UJ	300 U	250 U [240 U]	280 U	300 UJ	290 UJ	270 U	240 U	**320 J**	230 U	270 U	270 U
Benzaldehyde	100-52-7	µg/kg	270 U	300 U	250 U [240 U]	280 UJ	300 U	290 U	270 U	240 UJ	280 U	230 U	270 U	270 U
Benzyl butyl phthalate	85-68-7	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 U	240 U	280 U	230 U	270 U	270 U
Bis(2-chloroethoxy)methane	111-91-1	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 U	240 U	280 U	230 U	270 U	270 U
Bis(2-chloroethyl)ether	111-44-4	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 U	240 U	280 U	230 U	270 U	270 U
Bis(2-ethylhexyl)phthalate	117-81-7	µg/kg	**5800 J**	**1800**	760 U [1500 U]	1200 U	**4600 J**	**2100 J**	510 U	**3000**	370 U	**2400**	**3000 J**	3600 U
Caprolactam	105-60-2	µg/kg	270 UJ	300 UJ	250 UJ [240 UJ]	280 UJ	**350 J**	290 UJ	270 UJ	240 UJ	280 UJ	230 UJ	270 U	270 UJ
Carbazole	86-74-8	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 U	240 U	280 U	230 U	270 U	**1400**
Cresols, m- & p-	108-39-4; 106-44-5	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 UJ	240 U	280 U	230 U	270 U	270 U
Dibenzofuran	132-64-9	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 U	240 U	280 U	230 U	270 U	**170 J**
Diethyl phthalate	84-66-2	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 U	240 U	280 U	230 U	270 U	270 U
Dimethyl phthalate	131-11-3	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 U	240 U	280 U	230 U	270 U	270 U
Di-n-butyl phthalate	84-74-2	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 U	240 U	280 U	230 U	270 U	270 U
di-n-Octyl phthalate	117-84-0	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 U	240 U	280 U	230 U	270 U	270 U
Hexachlorobenzene	118-74-1	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 U	240 U	280 U	230 U	270 U	270 U
Hexachlorobutadiene	87-68-3	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 U	240 U	280 U	230 U	270 U	270 U
Hexachlorocyclopentadiene	77-47-4	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 U	240 U	280 U	230 U	270 U	270 U
Hexachloroethane	67-72-1	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 U	240 U	280 U	230 U	270 U	270 U
Isophorone	78-59-1	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 U	240 U	280 U	230 U	270 U	270 U
Nitrobenzene	98-95-3	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 U	240 U	280 U	230 U	270 U	270 U
N-Nitrosodi-n-propylamine	621-64-7	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 U	240 U	280 U	230 U	270 U	270 U
N-Nitrosodiphenylamine	86-30-6	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 U	240 U	280 U	230 U	270 U	270 U
Pentachlorophenol	87-86-5	µg/kg	670 U	750 U	630 U [580 U]	700 U	740 U	720 U	660 UJ	600 U	690 U	570 U	660 U	670 U
Phenol	108-95-2	µg/kg	270 U	300 U	250 U [240 U]	280 U	300 U	290 U	270 UJ	240 U	280 U	230 U	270 U	270 U

Table 6-4
Soil Data Considered in the SLERA
Former Nike BU 51/52 Launch Area Remedial Investigation
Hamburg, NY

		Location ID	NHFLA-MW1OB	NHFLA-MW2	NHFLA-MW3	NHFLA-MW4OB	NHFLA-MW5OB	NHFLA-MW6	NHFLA-MW7OB	NHFLA-MW8	NHFLA-MW9OB	NHFLA-MW10	NHFLA-MW13	NHFLA-MW14
		Sample ID [1]	NHFLA-MW1OB-A-AUG2020	NHFLA-MW2-A-AUG2020	NHFLA-MW3-A-AUG2020	NHFLA-MW4OB-A-SEP2020	NHFLA-MW5OB-A-AUG2020	NHFLA-MW6-A-AUG2020	NHFLA-MW7OB-A-AUG2020	NHFLA-MW8-A-SEP2020	NHFLA-MW9OB-A-AUG2020	NHFLA-MW10-A-AUG2020	NHFLA-MW13-A-AUG2020	NHFLA-MW14-A-SEP2020
		Sample Type [2]	N	N	N [FD]	N	N	N	N	N	N	N	N	N
		Sample Date	8/19/2020	8/24/2020	8/31/2020	9/1/2020	8/18/2020	8/26/2020	8/20/2020	9/1/2020	8/20/2020	8/25/2020	8/27/2020	9/2/2020
		Start Depth (ft bgs)	0	0	0	0	0	0	0	0	0	0	0	0
		End Depth (ft bgs)	1	1	1	1	1	1	0.5	0.3	0.4	1	1	1
Constituent	**CASRN**	**Units**												
2-Methylnaphthalene (LMW)	91-57-6	µg/kg	11.0 U	12.0 U	**3.90 J [4.20 J]**	**4.50 J**	12.0 U	**17.0 J**	**4.00 J**	**3.70 J**	11.0 U	9.30 U	**8.80 J**	**8.40 J**
Acenaphthene (LMW)	83-32-9	µg/kg	11.0 U	12.0 U	**10.0 J [10.0 J]**	11.0 U	12.0 U	**67.0**	**14.0 J**	9.80 U	11.0 U	**6.60 J**	**17.0 J**	**240**
Acenaphthylene (LMW)	208-96-8	µg/kg	11.0 U	12.0 U	10.0 U [9.50 U]	11.0 U	12.0 U	**43.0**	**15.0 J**	9.80 U	11.0 U	9.30 U	11.0 U	**8.20 J**
Anthracene (LMW)	120-12-7	µg/kg	**11.0 J**	**1.60 J**	**54.0 [60.0]**	**24.0**	**2.20 J**	**180**	**77.0**	**22.0**	**23.0**	**48.0**	**58.0**	**2900**
Benzo(a)anthracene (HMW)	56-55-3	µg/kg	**71**	**14.0 J**	**460 [570]**	**230**	**23.0 J**	**780**	**590**	**280**	**180**	**400**	**460**	**8500**
Benzo(a)pyrene (HMW)	50-32-8	µg/kg	**72**	**19.0 J**	**500 [720]**	**260**	**24**	**880**	**610**	**450**	**200**	**290**	**320**	**9600**
Benzo(b)fluoranthene (HMW)	205-99-2	µg/kg	**130**	**42**	**790 [900]**	**400**	**73**	**1200 J**	**920**	**450**	**290**	**470**	**600**	**13000**
Benzo(g,h,i)perylene (HMW)	191-24-2	µg/kg	**53**	24.0 U	**360 [550]**	**260**	**30**	**430**	**390**	**440**	**170**	**180**	**260**	**5800**
Benzo(k)fluoranthene (HMW)	207-08-9	µg/kg	**47**	**16.0 J**	**210 [280]**	**150**	**26**	**380**	**330**	**300**	**100**	**150**	**140**	**5800**
Chrysene (HMW)	218-01-9	µg/kg	**79**	**15.0 J**	**540 [660]**	**290**	**24**	**820**	**510**	**310**	**170**	**340**	**440**	**11000**
Dibenz(a,h)anthracene (HMW)	53-70-3	µg/kg	**14.0 J**	**7.60 J**	**94.0 [130]**	**52**	**11.0 J**	**160**	**100**	**64**	**55**	**60**	**50**	**1400**
Fluoranthene (HMW)	206-44-0	µg/kg	**130**	**30**	**900 [910]**	**340**	**53**	**1500**	**910**	**280**	**340**	**520**	**630**	**22000**
Fluorene (LMW)	86-73-7	µg/kg	**5.40 J**	12.0 U	**19.0 J [18.0 J]**	**11.0 J**	12.0 U	**87**	**34**	**3.20 J**	**7.60 J**	**26**	**31**	**330**
Indeno(1,2,3-cd)pyrene (HMW)	193-39-5	µg/kg	**49**	24.0 U	**300 [420]**	**400**	**28**	**400**	**360**	**430**	**150**	**180**	**470**	**6000**
Naphthalene (LMW)	91-20-3	µg/kg	11.0 U	12.0 U	10.0 U [9.50 U]	11.0 U	12.0 U	**26**	11.0 U	9.80 U	11.0 U	**4.20 J**	11.0 U	**18.0 J**
Phenanthrene (LMW)	85-01-8	µg/kg	**68**	**12.0 J**	**330 [350]**	**170**	**17.0 J**	**850**	**520**	**97**	**140**	**310**	**360**	**8400**
Pyrene (HMW)	129-00-0	µg/kg	**130**	**31**	**1000 [1100]**	**460**	**39**	**1500**	**1200**	**430**	**400**	**860**	**890**	**18000**
Total LMW PAHs [3]	--	µg/kg	**84**	**14**	**430**	**210**	**19**	**1270**	**664**	**126**	**171**	**395**	**475**	**11905**
Total HMW PAHs [4]	--	µg/kg	**775**	**175**	**5697**	**2842**	**331**	**8050**	**5920**	**3434**	**2055**	**3450**	**4260**	**101100**

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Soil Data Considered in the SLERA
Former Nike BU 51/52 Launch Area Remedial Investigation
Hamburg, NY

		Location ID	NHFLA-MW1OB	NHFLA-MW2	NHFLA-MW3	NHFLA-MW4OB	NHFLA-MW5OB	NHFLA-MW6	NHFLA-MW7OB	NHFLA-MW8	NHFLA-MW9OB	NHFLA-MW10	NHFLA-MW13	NHFLA-MW14
		Sample ID [1]	NHFLA-MW1OB-A-AUG2020	NHFLA-MW2-A-AUG2020	NHFLA-MW3-A-AUG2020	NHFLA-MW4OB-A-SEP2020	NHFLA-MW5OB-A-AUG2020	NHFLA-MW6-A-AUG2020	NHFLA-MW7OB-A-AUG2020	NHFLA-MW8-A-SEP2020	NHFLA-MW9OB-A-AUG2020	NHFLA-MW10-A-AUG2020	NHFLA-MW13-A-AUG2020	NHFLA-MW14-A-SEP2020
		Sample Type [2]	N	N	N [FD]	N	N	N	N	N	N	N	N	N
		Sample Date	8/19/2020	8/24/2020	8/31/2020	9/1/2020	8/18/2020	8/26/2020	8/20/2020	9/1/2020	8/20/2020	8/25/2020	8/27/2020	9/2/2020
		Start Depth (ft bgs)	0	0	0	0	0	0	0	0	0	0	0	0
		End Depth (ft bgs)	1	1	1	1	1	1	0.5	0.3	0.4	1	1	1
Constituent	**CASRN**	**Units**												
Polychlorinated Biphenyls (PCBs)														
PCB-1016 (Aroclor 1016)	12674-11-2	µg/kg	--	--	-- [--]	--	--	--	--	--	--	--	--	--
PCB-1221 (Aroclor 1221)	11104-28-2	µg/kg	--	--	-- [--]	--	--	--	--	--	--	--	--	--
PCB-1232 (Aroclor 1232)	11141-16-5	µg/kg	--	--	-- [--]	--	--	--	--	--	--	--	--	--
PCB-1242 (Aroclor 1242)	53469-21-9	µg/kg	--	--	-- [--]	--	--	--	--	--	--	--	--	--
PCB-1248 (Aroclor 1248)	12672-29-6	µg/kg	--	--	-- [--]	--	--	--	--	--	--	--	--	--
PCB-1254 (Aroclor 1254)	11097-69-1	µg/kg	--	--	-- [--]	--	--	--	--	--	--	--	--	--
PCB-1260 (Aroclor 1260)	11096-82-5	µg/kg	--	--	-- [--]	--	--	--	--	--	--	--	--	--

Notes:
1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs), "B" to designate first subsurface interval (generally 1 to 3 ft bgs), and "C" to designate second subsurface interval (various depths).
2. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".
3. Low molecular weight (LMW) polycyclic aromatic hydrocarbons (PAHs) are composed of fewer than four benzene rings (USEPA 2007a).
4. High molecular weight (HMW) polycyclic aromatic hydrocarbons (PAHs) are composed of four or more benzene rings (USEPA 2007a).
5. Data qualified as estimated ("J") were used as detected values, the same as unqualified data. Also, for duplicates, if both the parent and duplicate were detected or if both were not detected then the results were averaged; if either the parent or duplicate was detected and the other was not detected, the detected result was used.

Detected concentrations are bolded.

Acronymns and Abbreviations:
-- = not available or not analyzed.
CASRN = Chemical Abstracts Service Registry Number.
ft = feet.
ft bgs = feet below ground surface.
LOD = limit of detection.
ng/g = nanograms per gram.
µg/g = micrograms per gram.
µg/kg = micrograms per kilogram.
mg/kg = milligrams per kilogram.

Qualifier Definitions:
U = The analyte was not detected and was reported as less than the LOD.
J = The reported result was an estimated value.
UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.
R = The data validator flagged the data with “X” qualifiers due to significant QC deficiencies in the laboratory analysis of the samples.

Table 6-4
Soil Data Considered in the SLERA
Former Nike BU 51/52 Launch Area Remedial Investigation
Hamburg, NY

		Location ID	NHFLA-MW15	NHFLA-SL11A	NHFLA-SL25	NHFLA-SL26	NHFLA-SL27	NHFLA-SL28	NHFLA-SL29	NHFLA-SL31
		Sample ID [1]	NHFLA-MW15-A-AUG2020	NHFLA-SL11A-A-SEP2020	NHFLA-SL25-A-SEP2020	NHFLA-SL26-A-SEP2020	NHFLA-SL27-A-SEP2020	NHFLA-SL28-A-SEP2020	NHFLA-SL29-A-SEP2020	NHFLA-SL31-A-SEP2020
		Sample Type [2]	N [FD]	N [FD]	N	N	N	N	N	N [FD]
		Sample Date	8/26/2020	9/11/2020	9/11/2020	9/16/2020	9/16/2020	9/16/2020	9/17/2020	9/16/2020
		Start Depth (ft bgs)	0	0	0	0	0	0	0	0
		End Depth (ft bgs)	1	1	1	1	1	1	1	1
Constituent	**CASRN**	**Units**								
Inorganics										
Aluminum	7429-90-5	mg/kg	**14100 [14300]**	**12200 [12600]**	**14800**	**12900**	**8630**	**11400**	**12800**	**12400 [14300]**
Antimony	7440-36-0	mg/kg	**1.37 J [0.270 J]**	R	0.430 U	1.10 U	0.530 U	1.00 U	R	0.520 U [0.880 U]
Arsenic	7440-38-2	mg/kg	**10.0 [9.98]**	**9.16 [8.31]**	**8.51**	**8.40**	**7.51**	**8.01**	**7.97 J**	**8.64 [7.22]**
Barium	7440-39-3	mg/kg	**85.3 [75.3]**	**60.6 [62.6]**	**85.4**	**74.8**	**44.4**	**83.4**	**78.7**	**75.8 [78.9]**
Beryllium	7440-41-7	mg/kg	**0.991 [0.904]**	**0.586 J [0.598 J]**	**1.05**	**1.68**	**0.510 J**	**1.36**	**0.873**	**0.625 [1.23]**
Cadmium	7440-43-9	mg/kg	**0.379 J [0.380 J]**	**0.354 J [0.355 J]**	**0.257 J**	**0.310 J**	**0.860**	**0.445 J**	**0.396 J**	**0.936 [0.310 J]**
Calcium	7440-70-2	mg/kg	**37000 [31300]**	**48600 [45400]**	**36800**	**65500**	**51900**	**79200**	**61500**	**38100 J [84000 J]**
Chromium	7440-47-3	mg/kg	**86.6 J [20.5 J]**	**30.3 J [17.2 J]**	**18.9**	**11.1**	**11.2**	**11.8**	**18.7**	**45.1 J [14.1 J]**
Chromium, Hexavalent	18540-29-9	mg/kg	0.340 UJ [0.340 UJ]	**0.340 U [0.250 J]**	0.320 U	0.330 U	0.680 U	0.350 U	0.350 U	**0.340 UJ [2.00 J]**
Cobalt	7440-48-4	mg/kg	**11.1 [11.1]**	**10.6 [9.65]**	**7.49**	**2.95**	**7.04**	**9.03**	**8.41**	**17.1 J [6.55 J]**
Copper	7440-50-8	mg/kg	**27.0 J [26.6 J]**	**108 J [31.8 J]**	**25.3**	**14.9**	**18.8**	**15.6**	**30.1 J**	**25.2 J [19.8 J]**
Iron	7439-89-6	mg/kg	**27800 J [23000 J]**	**24500 [23300]**	**21100**	**13800**	**15600**	**15800**	**21800**	**22900 [17500]**
Lead	7439-92-1	mg/kg	**28.3 J [31.2 J]**	**23.1 J [20.9 J]**	**38.4**	**19.4**	**28.9**	**18.3**	**27.5 J**	**36.0 J [21.0 J]**
Magnesium	7439-95-4	mg/kg	**6600 [6200]**	**12100 J [9570 J]**	**6580**	**9000**	**5450**	**7220**	**6180**	**5500 [6870]**
Manganese	7439-96-5	mg/kg	**2630 J [828 J]**	**507 [449]**	**601**	**460**	**330**	**1070**	**509**	**1160 [1100]**
Mercury	7439-97-6	mg/kg	**0.0500 [0.0490]**	**0.0350 J [0.0310 J]**	**0.0410**	**0.00690 J**	**0.0450**	0.0190 U	**0.196**	**0.0390 [0.0180 U]**
Nickel	7440-02-0	mg/kg	**30.9 J [31.3 J]**	**32.7 [32.5]**	**25.2**	**11.9**	**24.0**	**16.4**	**29.9 J**	**26.4 [19.2]**
Potassium	7440-09-7	mg/kg	**1910 J [1880 J]**	**2140 J [2290 J]**	**1950**	**1330**	**1290**	**1280**	**2100 J**	**2060 [1680]**
Selenium	7782-49-2	mg/kg	**1.40 J [1.20 J]**	**63.9 J [1.30 UJ]**	**1.30**	**1.60 J**	**1.20**	**1.30 J**	**1.00**	**1.89 [1.20 J]**
Silver	7440-22-4	mg/kg	**0.405 J [0.350 J]**	**0.100 J [0.740 U]**	**0.328 J**	**0.0960 J**	**0.0840 J**	0.810 U	0.350 U	**0.220 J [0.120 J]**
Sodium	7440-23-5	mg/kg	**206 [143 J]**	160 U [190 U]	**649**	**237**	100 U	**494**	**126**	**112 [198]**
Thallium	7440-28-0	mg/kg	0.920 U [0.800 U]	**0.200 J [0.170 J]**	0.430 U	**0.520 J**	**0.660 J**	**0.200 J**	0.440 UJ	**0.400 J [0.330 J]**
Vanadium	7440-62-2	mg/kg	**42.1 [31.0]**	**24.0 [25.1]**	**25.1**	**22.1**	**20.0**	**21.5**	**26.3**	**36.9 J [21.1 J]**
Zinc	7440-66-6	mg/kg	**128 J [132 J]**	**159 [146]**	**99.6**	**51.3**	**119**	**77.0**	**119**	**112 [80.5]**
General Chemistry										
Total Organic Carbon	ARC-TOC	µg/g	**29000 [25000]**	**23000 J [17000 J]**	**30000**	**42000**	**39000**	**34000**	**46000**	**28000 [39000]**
pH	ARC-pH	pH units	**8.20 [8.20]**	**8.50 [8.40]**	**9.00**	**8.20**	**8.20**	**8.40**	**8.10**	**8.20 [8.20]**

Table 6-4
Soil Data Considered in the SLERA
Former Nike BU 51/52 Launch Area Remedial Investigation
Hamburg, NY

		Location ID	NHFLA-MW15	NHFLA-SL11A	NHFLA-SL25	NHFLA-SL26	NHFLA-SL27	NHFLA-SL28	NHFLA-SL29	NHFLA-SL31
		Sample ID [1]	NHFLA-MW15-A-AUG2020	NHFLA-SL11A-A-SEP2020	NHFLA-SL25-A-SEP2020	NHFLA-SL26-A-SEP2020	NHFLA-SL27-A-SEP2020	NHFLA-SL28-A-SEP2020	NHFLA-SL29-A-SEP2020	NHFLA-SL31-A-SEP2020
		Sample Type [2]	N [FD]	N [FD]	N	N	N	N	N	N [FD]
		Sample Date	8/26/2020	9/11/2020	9/11/2020	9/16/2020	9/16/2020	9/16/2020	9/17/2020	9/16/2020
		Start Depth (ft bgs)	0	0	0	0	0	0	0	0
		End Depth (ft bgs)	1	1	1	1	1	1	1	1
Constituent	**CASRN**	**Units**								
Volatile Organic Compounds (VOCs)										
1,1,1-Trichloroethane	71-55-6	µg/kg	2.20 U [2.40 U]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
1,1,2,2-Tetrachloroethane	79-34-5	µg/kg	2.20 UJ [2.40 UJ]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	µg/kg	2.20 U [2.40 U]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
1,1,2-Trichloroethane	79-00-5	µg/kg	2.20 UJ [2.40 UJ]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
1,1-Dichloroethane	75-34-3	µg/kg	2.20 U [2.40 U]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
1,1-Dichloroethene	75-35-4	µg/kg	2.20 U [2.40 U]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
1,2,3-Trichlorobenzene	87-61-6	µg/kg	2.20 UJ [2.40 UJ]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
1,2,4-Trichlorobenzene	120-82-1	µg/kg	2.20 UJ [2.40 UJ]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
1,2-Dibromo-3-chloropropane	96-12-8	µg/kg	2.20 UJ [2.40 UJ]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
1,2-Dibromoethane	106-93-4	µg/kg	2.20 UJ [2.40 UJ]	2.30 U [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
1,2-Dichlorobenzene	95-50-1	µg/kg	2.20 UJ [2.40 UJ]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
1,2-Dichloroethane	107-06-2	µg/kg	2.20 U [2.40 U]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
1,2-Dichloropropane	78-87-5	µg/kg	2.20 UJ [2.40 UJ]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
1,3-Dichlorobenzene	541-73-1	µg/kg	2.20 UJ [2.40 UJ]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
1,4-Dichlorobenzene	106-46-7	µg/kg	2.20 UJ [2.40 UJ]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
2-Butanone	78-93-3	µg/kg	11.0 U [12.0 U]	12.0 U [13.0 UJ]	12.0 U	17.0 U	14.0 U	14.0 U	12.0 U	15.0 U [12.0 UJ]
2-Hexanone	591-78-6	µg/kg	11.0 UJ [12.0 UJ]	12.0 U [13.0 UJ]	12.0 U	17.0 U	14.0 U	14.0 U	12.0 U	15.0 U [12.0 UJ]
4-Methyl-2-pentanone	108-10-1	µg/kg	11.0 UJ [12.0 UJ]	12.0 U [13.0 UJ]	12.0 U	17.0 U	14.0 U	14.0 U	12.0 U	15.0 U [12.0 UJ]
Acetone	67-64-1	µg/kg	11.0 U [12.0 U]	**12.0 U [6.50 J]**	12.0 U	17.0 U	14.0 U	14.0 U	12.0 U	15.0 U [12.0 UJ]
Benzene	71-43-2	µg/kg	2.20 U [2.40 UJ]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
Bromochloromethane	74-97-5	µg/kg	2.20 UJ [2.40 UJ]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
Bromodichloromethane	75-27-4	µg/kg	2.20 UJ [2.40 UJ]	2.30 U [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
Bromoform	75-25-2	µg/kg	2.20 UJ [2.40 UJ]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
Bromomethane	74-83-9	µg/kg	4.40 U [4.80 U]	4.60 U [5.20 UJ]	4.80 U	6.70 U	5.70 U	5.60 U	5.00 U	5.90 U [4.90 UJ]
Carbon disulfide	75-15-0	µg/kg	**0.750 J [2.40 U]**	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
Carbon tetrachloride	56-23-5	µg/kg	2.20 U [2.40 U]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
Chlorobenzene	108-90-7	µg/kg	2.20 UJ [2.40 UJ]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
Chloroethane	75-00-3	µg/kg	4.40 U [4.80 U]	4.60 U [5.20 UJ]	4.80 U	6.70 U	5.70 U	5.60 U	5.00 U	5.90 U [4.90 UJ]
Chloroform	67-66-3	µg/kg	2.20 U [2.40 U]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
Chloromethane	74-87-3	µg/kg	4.40 U [4.80 U]	4.60 U [5.20 UJ]	4.80 U	6.70 U	5.70 U	5.60 U	5.00 U	5.90 U [4.90 UJ]
cis-1,2-Dichloroethene	156-59-2	µg/kg	2.20 UJ [2.40 UJ]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
cis-1,3-Dichloropropene	10061-01-5	µg/kg	2.20 UJ [2.40 UJ]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
Cyclohexane	110-82-7	µg/kg	2.20 U [2.40 U]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
Dibromochloromethane	124-48-1	µg/kg	2.20 UJ [2.40 UJ]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
Dichlorodifluoromethane (CFC-12)	75-71-8	µg/kg	4.40 U [4.80 U]	4.60 U [5.20 UJ]	4.80 U	6.70 U	5.70 U	5.60 U	5.00 U	5.90 U [4.90 UJ]
Ethylbenzene	100-41-4	µg/kg	2.20 UJ [2.40 UJ]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
Isopropylbenzene	98-82-8	µg/kg	2.20 UJ [2.40 UJ]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
m,p-Xylene	108-38-3; 106-42-3	µg/kg	4.40 UJ [4.80 UJ]	4.60 UJ [5.20 UJ]	4.80 U	6.70 U	5.70 U	5.60 U	5.00 U	5.90 U [4.90 UJ]
Methyl acetate	79-20-9	µg/kg	2.60 UJ [2.90 UJ]	2.80 U [3.10 UJ]	2.90 U	4.00 U	3.40 U	3.30 U	3.00 U	3.50 U [3.00 UJ]
Methyl tert-butyl ether	1634-04-4	µg/kg	2.20 U [2.40 U]	4.60 U [5.20 UJ]	4.80 U	6.70 U	5.70 U	5.60 U	5.00 U	5.90 U [4.90 UJ]
Methylcyclohexane	108-87-2	µg/kg	2.20 UJ [2.40 UJ]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
Methylene chloride	75-09-2	µg/kg	**10.0 J [12.0 UJ]**	**12.0 U [9.90 J]**	12.0 U	17.0 U	14.0 U	14.0 U	12.0 U	**15.0 U [7.90 J]**
o-Xylene	95-47-6	µg/kg	2.20 UJ [2.40 UJ]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
Styrene	100-42-5	µg/kg	2.20 UJ [2.40 UJ]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
Tetrachloroethene	127-18-4	µg/kg	2.20 UJ [2.40 UJ]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
Toluene	108-88-3	µg/kg	2.20 UJ [2.40 UJ]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
trans-1,2-Dichloroethene	156-60-5	µg/kg	2.20 U [2.40 U]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
trans-1,3-Dichloropropene	10061-02-6	µg/kg	2.20 UJ [2.40 UJ]	2.30 U [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
Trichloroethene	79-01-6	µg/kg	2.20 UJ [2.40 UJ]	2.30 UJ [2.60 UJ]	2.40 U	3.40 U	2.90 U	2.80 U	2.50 U	2.90 U [2.50 UJ]
Trichlorofluoromethane (CFC-11)	75-69-4	µg/kg	4.40 U [4.80 U]	4.60 UJ [5.20 UJ]	4.80 U	6.70 U	5.70 U	5.60 U	5.00 U	5.90 U [4.90 UJ]
Vinyl chloride	75-01-4	µg/kg	4.40 U [4.80 U]	4.60 U [5.20 UJ]	4.80 U	6.70 U	5.70 U	5.60 U	5.00 U	5.90 U [4.90 UJ]

Table 6-4
Soil Data Considered in the SLERA
Former Nike BU 51/52 Launch Area Remedial Investigation
Hamburg, NY

		Location ID	NHFLA-MW15	NHFLA-SL11A	NHFLA-SL25	NHFLA-SL26	NHFLA-SL27	NHFLA-SL28	NHFLA-SL29	NHFLA-SL31
		Sample ID [1]	NHFLA-MW15-A-AUG2020	NHFLA-SL11A-A-SEP2020	NHFLA-SL25-A-SEP2020	NHFLA-SL26-A-SEP2020	NHFLA-SL27-A-SEP2020	NHFLA-SL28-A-SEP2020	NHFLA-SL29-A-SEP2020	NHFLA-SL31-A-SEP2020
		Sample Type [2]	N [FD]	N [FD]	N	N	N	N	N	N [FD]
		Sample Date	8/26/2020	9/11/2020	9/11/2020	9/16/2020	9/16/2020	9/16/2020	9/17/2020	9/16/2020
		Start Depth (ft bgs)	0	0	0	0	0	0	0	0
		End Depth (ft bgs)	1	1	1	1	1	1	1	1
Constituent	**CASRN**	**Units**								
Semi-Volatile Organic Compounds (SVOCs)										
1,1-Dimethylhydrazine	57-14-7	ng/g	0.100 UJ [0.0990 UJ]	0.100 U [0.100 U]	0.100 U	0.100 U	0.100 U	0.0990 UJ	0.100 UJ	0.100 U [0.100 U]
Hydrazine	302-01-2	ng/g	R	0.0500 UJ [0.0500 UJ]	0.0500 U	0.0500 U	0.0500 U	R	R	0.0500 U [0.0500 U]
Methyl hydrazine	60-34-4	ng/g	R	0.100 U [0.100 U]	0.100 U	0.100 U	0.100 U	0.0990 UJ	R	0.100 U [0.100 U]
1,2,4,5-Tetrachlorobenzene	95-94-3	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
1,1-Biphenyl	92-52-4	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
1,4-Dioxane	123-91-1	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
2,2'-Oxybis(1-chloropropane)	108-60-1	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
2,4,5-Trichlorophenol	95-95-4	µg/kg	660 U [690 U]	610 U [670 U]	590 U	700 U	680 U	710 U	740 U	700 U [680 U]
2,4,6-Trichlorophenol	88-06-2	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
2,4-Dichlorophenol	120-83-2	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
2,4-Dimethylphenol	105-67-9	µg/kg	270 U [280 U]	240 UJ [270 UJ]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
2,4-Dinitrophenol	51-28-5	µg/kg	660 U [690 U]	610 U [670 U]	590 U	700 U	680 U	710 U	740 U	700 U [680 U]
2,4-Dinitrotoluene	121-14-2	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
2,6-Dinitrotoluene	606-20-2	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
2-Chloronaphthalene	91-58-7	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
2-Chlorophenol	95-57-8	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
2-Methylphenol	95-48-7	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
2-Nitroaniline	88-74-4	µg/kg	660 U [690 U]	610 U [670 U]	590 U	700 U	680 U	710 U	740 U	700 U [680 U]
2-Nitrophenol	88-75-5	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
3,3'-Dichlorobenzidine	91-94-1	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
3-Nitroaniline	99-09-2	µg/kg	660 U [690 U]	610 UJ [670 UJ]	590 U	700 U	680 U	710 U	740 U	700 U [680 U]
4,6-Dinitro-2-methylphenol	534-52-1	µg/kg	660 U [690 U]	610 U [670 U]	590 U	700 U	680 U	710 U	740 U	700 U [680 U]
4-Bromophenyl phenyl ether	101-55-3	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
4-Chloro-3-methylphenol	59-50-7	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
4-Chloroaniline	106-47-8	µg/kg	270 UJ [280 UJ]	R	240 UJ	280 U	270 U	290 U	300 U	280 U [270 U]
4-Chlorophenyl phenyl ether	7005-72-3	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
4-Nitroaniline	100-01-6	µg/kg	660 U [690 U]	610 U [670 U]	590 U	700 U	680 U	710 U	740 U	700 U [680 U]
4-Nitrophenol	100-02-7	µg/kg	660 U [690 U]	610 U [670 U]	590 U	700 U	680 U	710 U	740 U	700 U [680 U]
Acetophenone	98-86-2	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
Atrazine	1912-24-9	µg/kg	270 UJ [280 UJ]	**120 J [180 J]**	**730 J**	280 U	270 U	290 U	300 U	280 U [270 U]
Benzaldehyde	100-52-7	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
Benzyl butyl phthalate	85-68-7	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
Bis(2-chloroethoxy)methane	111-91-1	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
Bis(2-chloroethyl)ether	111-44-4	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
Bis(2-ethylhexyl)phthalate	117-81-7	µg/kg	**1200 J [1800 J]**	**740 J [530 J]**	**370 J**	280 U	270 U	290 U	300 U	280 U [270 U]
Caprolactam	105-60-2	µg/kg	270 UJ [280 UJ]	240 UJ [270 UJ]	240 U	280 UJ	270 UJ	290 UJ	300 U	280 UJ [270 UJ]
Carbazole	86-74-8	µg/kg	**710 [280 U]**	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
Cresols, m- & p-	108-39-4; 106-44-5	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
Dibenzofuran	132-64-9	µg/kg	**340 J [280 U]**	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
Diethyl phthalate	84-66-2	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
Dimethyl phthalate	131-11-3	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
Di-n-butyl phthalate	84-74-2	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
di-n-Octyl phthalate	117-84-0	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
Hexachlorobenzene	118-74-1	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
Hexachlorobutadiene	87-68-3	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
Hexachlorocyclopentadiene	77-47-4	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
Hexachloroethane	67-72-1	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
Isophorone	78-59-1	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
Nitrobenzene	98-95-3	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
N-Nitrosodi-n-propylamine	621-64-7	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
N-Nitrosodiphenylamine	86-30-6	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]
Pentachlorophenol	87-86-5	µg/kg	660 U [690 U]	610 U [670 U]	590 U	700 U	680 U	710 U	740 U	700 U [680 U]
Phenol	108-95-2	µg/kg	270 U [280 U]	240 U [270 U]	240 U	280 U	270 U	290 U	300 U	280 U [270 U]

Table 6-4
Soil Data Considered in the SLERA
Former Nike BU 51/52 Launch Area Remedial Investigation
Hamburg, NY

		Location ID	NHFLA-MW15	NHFLA-SL11A	NHFLA-SL25	NHFLA-SL26	NHFLA-SL27	NHFLA-SL28	NHFLA-SL29	NHFLA-SL31
		Sample ID [1]	NHFLA-MW15-A-AUG2020	NHFLA-SL11A-A-SEP2020	NHFLA-SL25-A-SEP2020	NHFLA-SL26-A-SEP2020	NHFLA-SL27-A-SEP2020	NHFLA-SL28-A-SEP2020	NHFLA-SL29-A-SEP2020	NHFLA-SL31-A-SEP2020
		Sample Type [2]	N [FD]	N [FD]	N	N	N	N	N	N [FD]
		Sample Date	8/26/2020	9/11/2020	9/11/2020	9/16/2020	9/16/2020	9/16/2020	9/17/2020	9/16/2020
		Start Depth (ft bgs)	0	0	0	0	0	0	0	0
		End Depth (ft bgs)	1	1	1	1	1	1	1	1
Constituent	**CASRN**	**Units**								
2-Methylnaphthalene (LMW)	91-57-6	µg/kg	**32.0 J [51.0 J]**	9.90 U [11.0 U]	**6.80 J**	**4.40 J**	**9.70 J**	**3.50 J**	**27.0 J**	**4.70 J [5.20 J]**
Acenaphthene (LMW)	83-32-9	µg/kg	**640 J [250 J]**	9.90 U [11.0 U]	**8.50 J**	11.0 U	**30.0**	12.0 U	**34.0 J**	11.0 U [11.0 U]
Acenaphthylene (LMW)	208-96-8	µg/kg	**17.0 J [8.70 J]**	9.90 U [11.0 U]	**25.0 J**	11.0 U	**13.0 J**	12.0 U	**40.0 J**	11.0 U [11.0 U]
Anthracene (LMW)	120-12-7	µg/kg	**2200 J [330 J]**	**3.60 J [2.80 J]**	**76.0**	**23.0**	**94.0**	**16.0 J**	**160**	**7.70 J [6.60 J]**
Benzo(a)anthracene (HMW)	56-55-3	µg/kg	**3700 J [1000 J]**	**30.0 [28.0]**	**490**	**190**	**430**	**170**	**740**	**73.0 [53.0]**
Benzo(a)pyrene (HMW)	50-32-8	µg/kg	**3000 J [920 J]**	**29.0 [32.0]**	**570**	**220**	**460**	**210**	**680**	**78.0 [62.0]**
Benzo(b)fluoranthene (HMW)	205-99-2	µg/kg	**3600 J [980 J]**	**50.0 [47.0]**	**840**	**310**	**630**	**320**	**1100**	**110 [88.0]**
Benzo(g,h,i)perylene (HMW)	191-24-2	µg/kg	**1700 J [430 J]**	**24.0 [25.0]**	**320**	**190**	**290**	**190**	**390**	**62.0 [54.0]**
Benzo(k)fluoranthene (HMW)	207-08-9	µg/kg	**1600 J [320 J]**	**14.0 J [17.0 J]**	**290**	**120**	**200**	**120**	**300**	**39.0 [34.0]**
Chrysene (HMW)	218-01-9	µg/kg	**3700 J [1100 J]**	**34.0 J [37.0 J]**	**530**	**240 J**	**450 J**	**210 J**	**640**	**110 J [74.0 J]**
Dibenz(a,h)anthracene (HMW)	53-70-3	µg/kg	**320 J [130 J]**	**5.50 J [11.0 U]**	**70**	**56**	**88**	**47**	**110**	**20.0 J [14.0 J]**
Fluoranthene (HMW)	206-44-0	µg/kg	**9600 J [1700 J]**	**59.0 [38.0]**	**940**	**330**	**1000**	**250**	**1600**	**91.0 [94.0]**
Fluorene (LMW)	86-73-7	µg/kg	**700 J [200 J]**	9.90 U [11.0 U]	**41.0 J**	**8.40 J**	**48**	**5.60 J**	**130**	11.0 U [11.0 U]
Indeno(1,2,3-cd)pyrene (HMW)	193-39-5	µg/kg	**1500 J [430 J]**	**20.0 [20.0 J]**	**330**	**170**	**260**	**140**	**370**	**52.0 [46.0]**
Naphthalene (LMW)	91-20-3	µg/kg	**24.0 J [180 J]**	9.90 U [11.0 U]	**10.0 J**	11.0 U	**11.0 J**	12.0 U	**36.0 J**	11.0 U [11.0 U]
Phenanthrene (LMW)	85-01-8	µg/kg	**7400 J [1800 J]**	**30.0 [19.0 J]**	**610**	**150**	**530**	**110**	**1200**	**45.0 [39.0]**
Pyrene (HMW)	129-00-0	µg/kg	**8300 J [2500 J]**	**54.0 J [43.0 J]**	**960**	**420**	**1100**	**390**	**1200**	**140 [110]**
Total LMW PAHs [3]	--	µg/kg	**6916**	**28**	**777**	**186**	**736**	**135**	**1627**	**54**
Total HMW PAHs [4]	--	µg/kg	**23265**	**306**	**5340**	**2246**	**4908**	**2047**	**7130**	**702**

Table 6-4
Soil Data Considered in the SLERA
Former Nike BU 51/52 Launch Area Remedial Investigation
Hamburg, NY

		Location ID	NHFLA-MW15	NHFLA-SL11A	NHFLA-SL25	NHFLA-SL26	NHFLA-SL27	NHFLA-SL28	NHFLA-SL29	NHFLA-SL31
		Sample ID [1]	NHFLA-MW15-A-AUG2020	NHFLA-SL11A-A-SEP2020	NHFLA-SL25-A-SEP2020	NHFLA-SL26-A-SEP2020	NHFLA-SL27-A-SEP2020	NHFLA-SL28-A-SEP2020	NHFLA-SL29-A-SEP2020	NHFLA-SL31-A-SEP2020
		Sample Type [2]	N [FD]	N [FD]	N	N	N	N	N	N [FD]
		Sample Date	8/26/2020	9/11/2020	9/11/2020	9/16/2020	9/16/2020	9/16/2020	9/17/2020	9/16/2020
		Start Depth (ft bgs)	0	0	0	0	0	0	0	0
		End Depth (ft bgs)	1	1	1	1	1	1	1	1
Constituent	**CASRN**	**Units**								
Polychlorinated Biphenyls (PCBs)										
PCB-1016 (Aroclor 1016)	12674-11-2	µg/kg	-- [--]	8.80 U [8.90 UJ]	--	--	--	--	--	-- [--]
PCB-1221 (Aroclor 1221)	11104-28-2	µg/kg	-- [--]	8.80 U [8.90 UJ]	--	--	--	--	--	-- [--]
PCB-1232 (Aroclor 1232)	11141-16-5	µg/kg	-- [--]	10.0 U [10.0 UJ]	--	--	--	--	--	-- [--]
PCB-1242 (Aroclor 1242)	53469-21-9	µg/kg	-- [--]	8.80 U [8.90 UJ]	--	--	--	--	--	-- [--]
PCB-1248 (Aroclor 1248)	12672-29-6	µg/kg	-- [--]	8.80 U [8.90 UJ]	--	--	--	--	--	-- [--]
PCB-1254 (Aroclor 1254)	11097-69-1	µg/kg	-- [--]	8.80 U [8.90 UJ]	--	--	--	--	--	-- [--]
PCB-1260 (Aroclor 1260)	11096-82-5	µg/kg	-- [--]	8.80 U [8.90 UJ]	--	--	--	--	--	-- [--]

Notes:
1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs), "B" to designate first subsurface interval (generally 1 to 3 ft bgs), and "C" to designate second subsurface interval (various depths).
2. Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".
3. Low molecular weight (LMW) polycyclic aromatic hydrocarbons (PAHs) are composed of fewer than four benzene rings (USEPA 2007a).
4. High molecular weight (HMW) polycyclic aromatic hydrocarbons (PAHs) are composed of four or more benzene rings (USEPA 2007a).
5. Data qualified as estimated ("J") were used as detected values, the same as unqualified data. Also, for duplicates, if both the parent and duplicate were detected or if both were not detected then the results were averaged; if either the parent or duplicate was detected and the other was not detected, the detected result was used.

Detected concentrations are bolded.

Acronymns and Abbreviations:
-- = not available or not analyzed.
CASRN = Chemical Abstracts Service Registry Number.
ft = feet.
ft bgs = feet below ground surface.
LOD = limit of detection.
ng/g = nanograms per gram.
µg/g = micrograms per gram.
µg/kg = micrograms per kilogram.
mg/kg = milligrams per kilogram.

Qualifier Definitions:
U = The analyte was not detected and was reported as less than the LOD.
J = The reported result was an estimated value.
UJ = The analyte was not detected and was reported as less than the LOD as an estimated value.
R = The data validator flagged the data with “X” qualifiers due to significant QC deficiencies in the laboratory analysis of the samples.

Table 6-5
Identification of Potential Ecological Constituents of Concern
Former Nike BU 51/52 Launch Area Remedial Investigation
Hamburg, NY

Constituent	Frequency of Detection[1]	FOD (%)[1]	Minimum Detected (mg/kg)[1]	Maximum Detected (mg/kg)[1]	Location of Maximum Detection[1]	BTV (mg/kg)	Plant Benchmark[2] (mg/kg)	Soil Invertebrate Benchmark[2] (mg/kg)	Bird Benchmark[2] (mg/kg)	Mammal Benchmark[2] (mg/kg)	Maximum Detection Exceeds BTV?	FOD > 10%?	Maximum Exceeds One or More Benchmarks?	Ecological COC?[3]
Inorganics														
Aluminum	20 / 20	100	6,900	17,600	NHFLA-MW2-A-AUG2020	23,400	--	--	--	--	no	yes	--	no
Antimony	6 / 18	33	0.23	0.82	NHFLA-MW15-A-AUG2020	0.96	5	78	--	0.27	no	yes	yes	no
Arsenic	20 / 20	100	3.9	16	NHFLA-MW2-A-AUG2020	21.3	18	6.8	43	46	no	yes	yes	no
Barium	20 / 20	100	42	136	NHFLA-MW8-A-SEP2020	122	110	330	820	2,000	yes	yes	yes	yes
Beryllium	20 / 20	100	0.51	2.2	NHFLA-MW7OB-A-AUG2020	1.6	2.5	40	--	21	yes	yes	no	no
Cadmium	18 / 20	90	0.13	0.86	NHFLA-SL27-A-SEP2020	1.3	32	140	0.77	0.36	no	yes	yes	no
Calcium	20 / 20	100	1,510	140,000	NHFLA-MW8-A-SEP2020	40,500	--	--	--	--	yes	yes	--	no, essential nutrient
Chromium	20 / 20	100	11	54	NHFLA-MW15-A-AUG2020	24.8	--	--	26	34	yes	yes	yes	yes
Chromium, Hexavalent	5 / 20	25	0.25	2.0	NHFLA-SL31-A-SEP2020	0.72	0.35	0.34	140	130	yes	yes	yes	yes
Cobalt	20 / 20	100	2.6	25	NHFLA-MW2-A-AUG2020	17.5	13	--	120	230	yes	yes	yes	yes
Copper	20 / 20	100	15	70	NHFLA-SL11A-A-SEP2020	36.9	70	80	28	49	yes	yes	yes	yes
Iron	20 / 20	100	13,800	35,600	NHFLA-MW2-A-AUG2020	47,600	--	--	--	--	no	yes	--	no
Lead	20 / 20	100	17	74	NHFLA-MW8-A-SEP2020	38.1	120	1,700	11	56	yes	yes	yes	yes
Magnesium	20 / 20	100	1,880	14,800	NHFLA-MW8-A-SEP2020	8,980	--	--	--	--	yes	yes	--	no, essential nutrient
Manganese	20 / 20	100	330	1,729	NHFLA-MW15-A-AUG2020	773	220	450	4,300	4,000	yes	yes	yes	yes
Mercury	19 / 20	95	0.0069	0.38	NHFLA-MW5OB-A-AUG2020	0.15	0.30	0.050	0.013	1.7	yes	yes	yes	yes
Nickel	20 / 20	100	11	33	NHFLA-MW9OB-A-AUG2020	44.8	38	280	210	130	no	yes	no	no
Potassium	20 / 20	100	1,030	2,650	NHFLA-MW9OB-A-AUG2020	2,210	--	--	--	--	yes	yes	--	no, essential nutrient
Selenium	19 / 20	95	0.65	64	NHFLA-SL11A-A-SEP2020	2.4	0.52	4.1	1.2	0.63	yes	yes	yes	yes
Silver	17 / 20	85	0.080	1.5	NHFLA-MW2-A-AUG2020	1.1	560	--	4.2	14	yes	yes	no	no
Sodium	16 / 20	80	67	1,100	NHFLA-MW2-A-AUG2020	109	--	--	--	--	yes	yes	--	no, essential nutrient
Thallium	11 / 20	55	0.15	1.9	NHFLA-MW2-A-AUG2020	1.1	0.050	--	4.5	0.42	yes	yes	yes	yes
Vanadium	20 / 20	100	12	47	NHFLA-MW2-A-AUG2020	64.6	60	--	7.8	280	no	yes	yes	no
Zinc	20 / 20	100	51	631	NHFLA-MW7OB-A-AUG2020	255	160	120	46	79	yes	yes	yes	yes
Volatile Organic Compounds (VOCs)														
Acetone	2 / 20	10	0.0065	0.061	NHFLA-MW9OB-A-AUG2020	--	--	0.040	7.5	1.2	--	no	yes	no
Carbon disulfide	2 / 20	10	0.00075	0.003	NHFLA-MW9OB-A-AUG2020	--	--	0.0050	--	0.81	--	no	no	no
Methylene chloride	8 / 20	40	0.0079	0.029	NHFLA-MW9OB-A-AUG2020	--	1,600	0.21	--	2.6	--	yes	no	no
Toluene	1 / 20	5	0.0082	0.0082	NHFLA-MW9OB-A-AUG2020	--	200	0.15	--	23	--	no	no	no
Semi-Volatile Organic Compounds (SVOCs)														
Atrazine	3 / 20	15	0.15	0.73	NHFLA-SL25-A-SEP2020	--	--	--	--	--	--	yes	--	yes
Bis(2-ethylhexyl)phthalate	10 / 20	50	0.37	5.8	NHFLA-MW1OB-A-AUG2020	--	--	8.4	0.020	0.60	--	yes	yes	yes
Caprolactam	1 / 20	5	0.35	0.35	NHFLA-MW5OB-A-AUG2020	--	--	--	--	--	--	no	--	no
Carbazole	2 / 20	10	0.71	1.4	NHFLA-MW14-A-SEP2020	--	--	0.070	--	79	--	no	yes	no
Dibenzofuran	2 / 20	10	0.17	0.34	NHFLA-MW15-A-AUG2020	--	6.1	0.15	--	--	--	no	yes	no
2-Methylnaphthalene	14 / 20	70	0.0035	0.042	NHFLA-MW15-A-AUG2020	--	--	see LMW PAHs	--	see LMW PAHs	--	yes	--	no
Acenaphthene	10 / 20	50	0.0066	0.45	NHFLA-MW15-A-AUG2020	0.011	0.25	see LMW PAHs	--	see LMW PAHs	yes	yes	yes	yes
Acenaphthylene	7 / 20	35	0.0082	0.043	NHFLA-MW6-A-AUG2020	--	--	see LMW PAHs	--	see LMW PAHs	--	yes	--	no
Anthracene	20 / 20	100	0.0016	2.9	NHFLA-MW14-A-SEP2020	0.017	6.8	see LMW PAHs	--	see LMW PAHs	yes	yes	no	no
Benzo(a)anthracene	20 / 20	100	0.014	8.5	NHFLA-MW14-A-SEP2020	0.056	18	see HMW PAHs	0.73	see HMW PAHs	yes	yes	yes	yes
Benzo(a)pyrene	20 / 20	100	0.019	9.6	NHFLA-MW14-A-SEP2020	0.043	--	see HMW PAHs	--	see HMW PAHs	yes	yes	--	yes
Benzo(b)fluoranthene	20 / 20	100	0.042	13	NHFLA-MW14-A-SEP2020	0.077	18	see HMW PAHs	--	see HMW PAHs	yes	yes	no	yes
Benzo(g,h,i)perylene	19 / 20	95	0.025	5.8	NHFLA-MW14-A-SEP2020	0.024	--	see HMW PAHs	--	see HMW PAHs	yes	yes	--	yes
Benzo(k)fluoranthene	20 / 20	100	0.016	5.8	NHFLA-MW14-A-SEP2020	0.024	--	see HMW PAHs	--	see HMW PAHs	yes	yes	--	yes
Chrysene	20 / 20	100	0.015	11	NHFLA-MW14-A-SEP2020	0.047	--	see HMW PAHs	--	see HMW PAHs	yes	yes	--	yes
Dibenz(a,h)anthracene	20 / 20	100	0.0055	1.4	NHFLA-MW14-A-SEP2020	0.0079	--	see HMW PAHs	--	see HMW PAHs	yes	yes	--	yes
Fluoranthene	20 / 20	100	0.030	22	NHFLA-MW14-A-SEP2020	0.16	--	see HMW PAHs	--	see HMW PAHs	yes	yes	--	yes
Fluorene	16 / 20	80	0.0032	0.45	NHFLA-MW15-A-AUG2020	0.010	--	see LMW PAHs	--	see LMW PAHs	yes	yes	--	no
Indeno(1,2,3-cd)pyrene	19 / 20	95	0.020	6	NHFLA-MW14-A-SEP2020	0.022	--	see HMW PAHs	--	see HMW PAHs	yes	yes	--	yes
Naphthalene	7 / 20	35	0.0042	0.10	NHFLA-MW15-A-AUG2020	--	1.0	see LMW PAHs	3.4	see LMW PAHs	--	yes	no	no
Phenanthrene	20 / 20	100	0.012	8.4	NHFLA-MW14-A-SEP2020	0.13	--	see LMW PAHs	--	see LMW PAHs	yes	yes	--	no
Pyrene	20 / 20	100	0.031	18	NHFLA-MW14-A-SEP2020	0.097	--	see HMW PAHs	33	see HMW PAHs	yes	yes	no	yes
Total LMW PAHs[4]	20 / 20	100	0.014	12	NHFLA-MW14-A-SEP2020	--	--	29	--	100	--	yes	no	no
Total HMW PAHs[5]	20 / 20	100	0.17	101	NHFLA-MW14-A-SEP2020	--	--	18	--	1.1	--	yes	yes	yes

Table 6-5
Identification of Potential Ecological Constituents of Concern
Former Nike BU 51/52 Launch Area Remedial Investigation
Hamburg, NY

Notes
1. The soil data considered in the screening level ecological risk assessment and included in the summary statistics are presented in Table 6-4 Summary of Soil Data Considered in SLERA.
2. The plant, soil invertebrate, bird, and mammal benchmarks were selected based on the following hierarchy: USEPA EcoSSLs if available (2007), USEPA Region 4 Ecological Soil Screening Levels if available (2018), and Department of Energy Laboratories i.e., Los Alamos National Laboratory (2017) if available.
3. Ecological COCs are constituents with a maximum detection that exceeds the BTV (if available) and at least one benchmark (plant, soil invertebrate, bird, or mammal) and has a FOD of at least 10%. If a constituent does not have an available benchmark and has a FOD of at least 10%, it was identified as an ecological COC. Calcium, magnesium, potassium, and sodium are essential nutrients and were not identified as ecological COCs.
4. Low molecular weight (LMW) polycyclic aromatic hydrocarbons (PAHs) are composed of fewer than four benzene rings (USEPA 2007a).
5. High molecular weight (HMW) PAHs are composed of four or more benzene rings (USEPA 2007a).

Acronyms and Abbreviations:
% = percent
-- = not available
BTV = background threshold value
CASRN = Chemical Abstracts Service Registry Number
COC = constituent of concern
FOD = frequency of detection
mg/kg = milligrams per kilogram

References
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USEPA. 2018. Region 4 Ecological Risk Assessment Supplemental Guidance. March 2018 Update.

Table 6-6
Risk Characterization - Plants
Former Nike BU 51/52 Launch Area Remedial Investigation
Hamburg, NY

Ecological COCs[1]	Frequency of Detection[2]	FOD %[2]	Plant Benchmark[3] (mg/kg)	Number of Exceedances	Maximum HQ[4]		Mean HQ[5]		BTV HQ[6]		Ecological Risk Conclusion
					Maximum Detected Concentration (mg/kg)	Maximum HQ	Arithmetic Mean Concentration (mg/kg)	Mean HQ	BTV (mg/kg)	BTV HQ	
Inorganics											
Barium	20 / 20	100	110	2	136	**1.2**	78	<1	122	**1.1**	Mean HQs < 1, or where Mean HQs > 1, BTV HQs > 1. Risks to plants are not ecologically significant.
Chromium	20 / 20	100	--	--	54	--	20	--	24.8	--	
Chromium, Hexavalent	5 / 20	25	0.35	9	2.0	**5.7**	0.40	**1.1**	0.72	**2.1**	
Cobalt	20 / 20	100	13	2	25	**1.9**	8.7	<1	17.5	**1.3**	
Copper	20 / 20	100	70	1	70	<1	27	<1	36.9	<1	
Lead	20 / 20	100	120	0	74	<1	30	<1	38.1	<1	
Manganese	20 / 20	100	220	20	1,729	**7.9**	759	**3.5**	773	**3.5**	
Mercury	19 / 20	95	0.30	1	0.38	**1.3**	0.065	<1	0.15	<1	
Selenium	19 / 20	95	0.52	20	64	**123**	4.5	**8.6**	2.4	**4.5**	
Thallium	11 / 20	55	0.050	20	1.9	**38**	0.49	**10**	1.1	**23**	
Zinc	20 / 20	100	160	3	631	**3.9**	162	1.0	255	**1.6**	
Semi-Volatile Organics (SVOCs)											
Atrazine	3 / 20	15	--	--	0.73	--	0.18	--	--	--	Mean HQs < 1. Risks to plants are not ecologically significant.
Bis(2-ethylhexyl)phthalate	10 / 20	50	--	--	5.8	--	1.5	--	--	--	
Acenaphthene	10 / 20	50	0.25	1	0.45	**1.8**	0.046	<1	0.011	<1	
Benzo(a)anthracene	20 / 20	100	18	0	8.5	<1	0.83	<1	0.056	<1	
Benzo(a)pyrene	20 / 20	100	--	--	9.6	--	0.88	--	0.043	--	
Benzo(b)fluoranthene	20 / 20	100	18	0	13	<1	1.2	<1	0.077	<1	
Benzo(g,h,i)perylene	19 / 20	95	--	--	5.8	--	0.55	--	0.024	--	
Benzo(k)fluoranthene	20 / 20	100	--	--	5.8	--	0.49	--	0.024	--	
Chrysene	20 / 20	100	--	--	11	--	1.0	--	0.047	--	
Dibenz(a,h)anthracene	20 / 20	100	--	--	1.4	--	0.14	--	0.0079	--	
Fluoranthene	20 / 20	100	--	--	22	--	1.9	--	0.16	--	
Indeno(1,2,3-cd)pyrene	19 / 20	95	--	--	6.0	--	0.56	--	0.022	--	
Pyrene	20 / 20	100	--	--	18	--	1.7	--	0.097	--	
Total HMW PAHs [7]	20 / 20	100	--	--	101	--	9.2	--	--	--	

Notes
1. Ecological COCs are constituents with a maximum detection that exceeds the BTV, the plant benchmark, and has a FOD of at least 10%.
2. The soil data considered in the screening level ecological risk assessment and included in the summary statistics are presented in Table 6-4 Summary of Soil Data Considered in SLERA.
3. The plant benchmarks were selected based on the following hierarchy: USEPA EcoSSLs if available (2007), USEPA Region 4 Ecological Soil Screening Levels if available (2018), and Department of Energy Laboratories i.e., Los Alamos National Laboratory (2017) if available.
4. The maximum HQs were calculated as the maximum concentration for each COC divided by the applicable plant benchmark. Maximum HQs greater than 1.0 are bolded.
5. The arithmetic mean HQs were calculated as the mean concentration for each COC divided by the applicable plant benchmark. Mean HQs greater than 1.0 are bolded.
6. The BTV HQs were calculated as the BTV for each COC divided by the applicable plant benchmark. BTV HQs equal to or greater than 1 are bolded.
7. High molecular weight (HMW) polycyclic aromatic hydrocarbons (PAHs) are composed of four or more benzene rings (USEPA 2007a).

Acronyms and Abbreviations:
-- = not available
< = less than
% = percent
BTV = background threshold value
COC = constituent of concern
FOD = frequency of detection
HQ = hazard quotient
mg/kg = milligrams per kilogram

References
Los Alamos National Laboratory (LANL). 2017. ECORISK Database Release 4.1. September 2017.http://www.lanl.gov/environment/protection/eco-risk-assessment.php.
USEPA. 2007. Interim Ecological Soil Screening Level Documents. Available at:https://www.epa.gov/chemical-research/interim-ecological-soil-screening-level-documents.
USEPA. 2018. Region 4 Ecological Risk Assessment Supplemental Guidance. March 2018 Update.

Table 6-7
Risk Characterization - Soil Invertebrates
Former Nike BU 51/52 Launch Area Remedial Investigation
Hamburg, NY

Ecological COCs[1]	Frequency of Detection[2]	FOD %[2]	Soil Invertebrate Benchmark[3] (mg/kg)	Number of Exceedances	Maximum HQ[4]		Mean HQ[5]		BTV HQ[6]		Ecological Risk Conclusion
					Maximum Detected (mg/kg)	Maximum HQ	Arithmetic Mean Concentration (mg/kg)	Mean HQ	BTV (mg/kg)	BTV HQ	
Inorganics											
Barium	20 / 20	100	330	0	136	<1	78	<1	122	<1	Mean HQs < 1, or Mean HQs slightly > 1 (i.e., HQ = 1.1) and/or BTV HQs > 1. Risks to soil invertebrates are not ecologically significant.
Chromium	20 / 20	100	--	--	54	--	20	--	24.8	--	
Chromium, Hexavalent	5 / 20	25	0.34	11	2.0	**5.9**	0.4	**1.2**	0.72	**2.1**	
Cobalt	20 / 20	100	--	--	25	--	9	--	17.5	--	
Copper	20 / 20	100	80	1	70	<1	27	<1	36.9	<1	
Lead	20 / 20	100	1,700	0	74	<1	30	<1	38.1	<1	
Manganese	20 / 20	100	450	16	1,729	**3.8**	759	**1.7**	773	**1.7**	
Mercury	19 / 20	95	0.050	6	0.38	**7.5**	0.07	**1.3**	0.15	**3.0**	
Selenium	19 / 20	95	4.1	1	64	**16**	4	**1.1**	2.4	<1	
Thallium	11 / 20	55	--	--	1.9	--	0.5	--	1.1	--	
Zinc	20 / 20	100	120	9	631	**5.3**	162	**1.4**	255	**2.1**	
Semi-Volatile Organic Compounds (SVOCs)											
Atrazine	3 / 20	15	--	--	0.73	--	0.2	--	--	--	Mean HQs < 1. Risks to soil invertebrates are not ecologically significant.
Bis(2-ethylhexyl)phthalate	10 / 20	50	8.4	0	5.8	<1	1	<1	--	--	
Acenaphthene	10 / 20	50	29	0	0.45	<1	0.05	<1	0.011	<1	
Benzo(a)anthracene	20 / 20	100	see HMW PAHs	--	8.5	--	0.8	--	0.056	--	
Benzo(a)pyrene	20 / 20	100	see HMW PAHs	--	9.6	--	0.9	--	0.043	--	
Benzo(b)fluoranthene	20 / 20	100	see HMW PAHs	--	13	--	1	--	0.077	--	
Benzo(g,h,i)perylene	19 / 20	95	see HMW PAHs	--	5.8	--	0.6	--	0.024	--	
Benzo(k)fluoranthene	20 / 20	100	see HMW PAHs	--	5.8	--	0.5	--	0.024	--	
Chrysene	20 / 20	100	see HMW PAHs	--	11	--	1	--	0.047	--	
Dibenz(a,h)anthracene	20 / 20	100	see HMW PAHs	--	1.4	--	0.1	--	0.0079	--	
Fluoranthene	20 / 20	100	see HMW PAHs	--	22	--	2	--	0.16	--	
Indeno(1,2,3-cd)pyrene	19 / 20	95	see HMW PAHs	--	6.0	--	0.6	--	0.022	--	
Pyrene	20 / 20	100	see HMW PAHs	--	18	--	2	--	0.097	--	
Total HMW PAHs[7]	20 / 20	100	18	2	101	**5.6**	9.2	<1	--	--	

Notes
1. Ecological COCs are constituents with a maximum detection that exceeds the BTV, the soil invertebrate benchmark, and has a FOD of at least 10%.
2. The soil data considered in the screening level ecological risk assessment and included in the summary statistics are presented in Table 6-4 Summary of Soil Data Considered in SLERA.
3. The soil invertebrate benchmarks were selected based on the following hierarchy: USEPA EcoSSLs if available (2007), USEPA Region 4 Ecological Soil Screening Levels if available (2018), and Department of Energy Laboratories i.e., Los Alamos National Laboratory (2017) if available.
4. The maximum HQs were calculated as the maximum concentration for each COC divided by the applicable soil invertebrate benchmark. Maximum HQs greater than 1.0 are bolded.
5. The mean HQs were calculated as the arithmetic mean concentration for each COC divided by the applicable soil invertebrate benchmark. Mean HQs greater than 1.0 are bolded.
6. The BTV HQs were calculated as the BTV for each COC divided by the applicable soil invertebrate benchmark. BTV HQs equal to or greater than 1 are bolded.
7. High molecular weight (HMW) polycyclic aromatic hydrocarbons (PAHs) are composed of four or more benzene rings (USEPA 2007a).

Acronyms and Abbreviations:
-- = not available
< = less than
% = percent
BTV = background threshold value
COC = constituent of concern
FOD = frequency of detection
HQ = hazard quotient
mg/kg = milligrams per kilogram

References
Los Alamos National Laboratory (LANL). 2017. ECORISK Database Release 4.1. September 2017.http://www.lanl.gov/environment/protection/eco-risk-assessment.php.
USEPA. 2007. Interim Ecological Soil Screening Level Documents. Available at:https://www.epa.gov/chemical-research/interim-ecological-soil-screening-level-documents.
USEPA. 2018. Region 4 Ecological Risk Assessment Supplemental Guidance. March 2018 Update.

Table 6-8
Risk Characterization - Birds
Former Nike BU 51/52 Launch Area Remedial Investigation
Hamburg, NY

Ecological COCs[1]	Frequency of Detection[2]	FOD %[2]	Bird Benchmark[3] (mg/kg)	Number of Exceedances - Bird Benchmark	Maximum HQ[4]		Mean HQ[5]		Refined HQs[6]	BTV HQ[7]		Ecological Risk Conclusion
					Maximum Detected (mg/kg)	Maximum Bird HQ	Arithmetic Mean Concentration (mg/kg)	Mean Bird HQ	Refined Bird HQ	BTV (mg/kg)	BTV Bird HQ	
Inorganics												
Barium	20 / 20	100	820	0	136	<1	78	<1	<1	122	<1	Refined HQs < 1. Risks to birds are not ecologically significant.
Chromium	20 / 20	100	26	4	54	**2.1**	20	<1	<1	24.8	<1	
Chromium, Hexavalent	5 / 20	25	140	0	2.0	<1	0.4	<1	<1	0.72	<1	
Cobalt	20 / 20	100	120	0	25	<1	9	<1	<1	17.5	<1	
Copper	20 / 20	100	28	6	70	**2.5**	27	<1	<1	36.9	**1.3**	
Lead	20 / 20	100	11	20	74	**6.7**	30	**2.7**	<1	38.1	**3.5**	
Manganese	20 / 20	100	4,300	0	1,729	<1	759	<1	<1	773	<1	
Mercury	19 / 20	95	0.013	19	0.38	**29**	0.07	**5.0**	<1	0.15	**12**	
Selenium	19 / 20	95	1.2	13	64	**53**	4	**3.7**	<1	2.4	**2.0**	
Thallium	11 / 20	55	4.5	0	1.9	<1	0.5	<1	<1	1.1	<1	
Zinc	20 / 20	100	46	20	631	**14**	162	**3.5**	<1	255	**5.5**	
Semi-Volatile Organic Compounds (SVOCs)												
Atrazine	3 / 20	15	--	0	0.73	--	0.2	--	--	--	--	Refined HQs < 1 for all SVOCs except bis(2-ethylhexyl)phthalate. See Note 9. Risks to birds are not ecologically significant.
Bis(2-ethylhexyl)phthalate	10 / 20	50	0.020	20	5.8	**290**	1	**74**	**2.6**	--	--	
Acenaphthene	10 / 20	50	--	0	0.45	--	0.05	--	--	0.011	--	
Benzo(a)anthracene	20 / 20	100	0.73	4	8.5	**12**	0.8	**1.1**	<1	0.056	<1	
Benzo(a)pyrene	20 / 20	100	--	0	9.6	--	0.9	--	--	0.043	--	
Benzo(b)fluoranthene	20 / 20	100	--	0	13	--	1	--	--	0.077	--	
Benzo(g,h,i)perylene	19 / 20	95	--	0	5.8	--	0.6	--	--	0.024	--	
Benzo(k)fluoranthene	20 / 20	100	--	0	5.8	--	0.5	--	--	0.024	--	
Chrysene	20 / 20	100	--	0	11	--	1	--	--	0.047	--	
Dibenz(a,h)anthracene	20 / 20	100	--	0	1.4	--	0.1	--	--	0.0079	--	
Fluoranthene	20 / 20	100	--	0	22	--	2	--	--	0.16	--	
Indeno(1,2,3-cd)pyrene	19 / 20	95	--	0	6.0	--	0.6	--	--	0.022	--	
Pyrene	20 / 20	100	33	0	18	<1	2	<1	<1	0.097	<1	
Total HMW PAHs[8]	20 / 20	100	--	--	101	--	9.2	--	--	--	--	

Notes

1. Ecological COCs are constituents with a maximum detection that exceeds the BTV, the bird benchmark, and has a FOD of at least 10%.
2. The soil data considered in the screening level ecological risk assessment and included in the summary statistics are presented in Table 6-4 Summary of Soil Data Considered in SLERA.
3. The bird benchmarks were selected based on the following hierarchy: USEPA EcoSSLs if available (2007), USEPA Region 4 Ecological Soil Screening Levels if available (2018), and Department of Energy Laboratories i.e., Los Alamos National Laboratory (2017) if available.
4. The maximum HQs were calculated as the maximum concentration for each COC divided by the applicable bird benchmark. Maximum HQs greater than 1.0 are bolded.
5. The mean HQs were calculated as the arithmetic mean concentration for each COC divided by the applicable bird benchmark. Mean HQs greater than 1.0 are bolded.
6. Refined HQs were calculated by adjusting the mean HQ using the following factors (see calculation details in tables below References):
   a. An adjustment factor of 0.7 to account for the difference between high-end estimate and mean food intake rate for the American woodcock (USEPA 2007b).
   b. An area use factor of 0.5 to account for the lack of habitat (<2 non-contiguous acres) at the former Launch Area compared to the foraging area for American woodcock (USEPA 1993); and
   c. An adjustment factor of 0.1 to reflect an assumed approximate order of magnitude difference between a NOAEL and LOAEL (USEPA 1997b).
7. The BTV HQs were calculated as the BTV for each COC divided by the applicable bird benchmark. BTV HQs equal to or greater than 1 are bolded.
8. High molecular weight (HMW) polycyclic aromatic hydrocarbons (PAHs) are composed of four or more benzene rings (USEPA 2007).
9. As described in Section 6.2.4.3, data validation reports for a subset of the highest bis(2-ethylhexyl)phthalate results were biased high with potential for lab contamination. This is indicated by laboratory control sample recoveries above the acceptance limits and method blank contamination (e.g., method blank results for bis(2-ethylhexyl)phthalate ranged from 100 to 4,600 mg/kg compared to the qualified sample results ranging from 370 to 5,600 mg/kg).

Acronyms and Abbreviations:
-- = not available
< = less than
% = percent
BTV = background threshold value
COC = constituent of concern
FOD = frequency of detection
HQ = hazard quotient
LOAEL = lowest observed adverse effect level
mg/kg = milligrams per kilogram
NOAEL = no observed adverse effect level

References

Los Alamos National Laboratory (LANL). 2017. ECORISK Database Release 4.1. September 2017.http://www.lanl.gov/environment/protection/eco-risk-assessment.php.
USEPA. 2007. Interim Ecological Soil Screening Level Documents. Available at:https://www.epa.gov/chemical-research/interim-ecological-soil-screening-level-documents.
USEPA. 2018. Region 4 Ecological Risk Assessment Supplemental Guidance. March 2018 Update.

Derivation of HQ adjustment factor (0.7) based on food intake rates for American woodcock

High-end point estimate used to develop EcoSSL	0.214	kg dw / kg BW / day	EcoSSL Attachment 4-1, Table 1 (USEPA 2007b).
Mean intake rate used to develop adjustment factor	0.1415	kg dw / kg BW / day	Mean of mean food intake rates (0.160, 0.123) provided in EcoSSL Attachment 4-1, Table 1 (USEPA 2007b).
Ratio of mean to high-end point estimate	0.7	unitless	Equivalent to 0.1415 kg dw / kg BW / day divided by 0.214 kg dw / kg BW / day

Derivation of HQ adjustment factor (0.5) based on available habitat relative to home range for American woodcock

Median home range for American woodcock	72	acres (equivalent to 29 hectares)	Mean of median home range (3.1, 73.6, 10.5 hectares) for American woodcock in Pennsylvania/mixed forests with shrubs and fields, provided in Wildlife Exposure Factors Handbook, Vol. I (USEPA 1993).
Potential habitat available at former Launch Area	2	acres	
Ratio of available habitat to median home range	0.03	unitless	Actual calculated value is 0.03; conservative higher estimate of ratio (0.5) was used.

Table 6-9
Risk Characterization - Mammals
Former Nike BU 51/52 Launch Area Remedial Investigation
Hamburg, NY

Ecological COCs[1]	Frequency of Detection[2]	FOD %[2]	Mammal Benchmark[3] (mg/kg)	Number of Exceedances - Mammal Benchmark	Maximum HQ[4]		Mean HQ[5]		Refined HQs[6]	BTV HQ[7]		Ecological Risk Conclusion
					Maximum Detected (mg/kg)	Maximum Mammal HQ	Arithmetic Mean Concentration (mg/kg)	Mean Mammal HQ	Refined Mammal HQ	BTV (mg/kg)	BTV Mammal HQ	
Inorganics												
Barium	20 / 20	100	2,000	0	136	<1	78	<1	<1	122	<1	Refined HQs < 1. Risks to mammals are not ecologically significant.
Chromium	20 / 20	100	34	3	54	**1.6**	20	<1	<1	24.8	<1	
Chromium, Hexavalent	5 / 20	25	130	0	2.0	<1	0.4	<1	<1	0.72	<1	
Cobalt	20 / 20	100	230	0	25	<1	9	<1	<1	17.5	<1	
Copper	20 / 20	100	49	1	70	**1.4**	27	<1	<1	36.9	<1	
Lead	20 / 20	100	56	1	74	**1.3**	30	<1	<1	38.1	<1	
Manganese	20 / 20	100	4,000	0	1,729	<1	759	<1	<1	773	<1	
Mercury	19 / 20	95	1.7	0	0.38	<1	0.07	<1	<1	0.15	<1	
Selenium	19 / 20	95	0.63	19	64	**101**	4	**7.1**	<1	2.4	**3.7**	
Thallium	11 / 20	55	0.42	14	1.9	**4.5**	0.5	**1.2**	<1	1.1	**2.7**	
Zinc	20 / 20	100	79	16	631	**8.0**	162	**2.1**	<1	255	**3.2**	
Semi-Volatile Organic Compounds (SVOCs)												
Atrazine	3 / 20	15	--	0	0.73	--	0.2	--	--	--	--	Refined HQs < 1. Risks to mammals are not ecologically significant.
Bis(2-ethylhexyl)phthalate	10 / 20	50	0.60	12	5.8	**10**	1	**2.5**	<1	--	--	
Acenaphthene	10 / 20	50	100	0	0.45	<1	0.05	<1	<1	0.011	<1	
Benzo(a)anthracene	20 / 20	100	see HMW PAHs	--	8.5	--	0.8	--	--	0.056	--	
Benzo(a)pyrene	20 / 20	100	see HMW PAHs	--	9.6	--	0.9	--	--	0.043	--	
Benzo(b)fluoranthene	20 / 20	100	see HMW PAHs	--	13	--	1	--	--	0.077	--	
Benzo(g,h,i)perylene	19 / 20	95	see HMW PAHs	--	5.8	--	0.6	--	--	0.024	--	
Benzo(k)fluoranthene	20 / 20	100	see HMW PAHs	--	5.8	--	0.5	--	--	0.024	--	
Chrysene	20 / 20	100	see HMW PAHs	--	11	--	1	--	--	0.047	--	
Dibenz(a,h)anthracene	20 / 20	100	see HMW PAHs	--	1.4	--	0.1	--	--	0.0079	--	
Fluoranthene	20 / 20	100	see HMW PAHs	--	22	--	2	--	--	0.16	--	
Indeno(1,2,3-cd)pyrene	19 / 20	95	see HMW PAHs	--	6.0	--	0.6	--	--	0.022	--	
Pyrene	20 / 20	100	see HMW PAHs	--	18	--	2	--	--	0.097	--	
Total HMW PAHs[8]	20 / 20	100	1.1	15	101	**92**	9.2	**8.4**	<1	--	--	

Notes

1. Ecological COCs are constituents with a maximum detection that exceeds the BTV, the mammal benchmark, and has a FOD of at least 10%.
2. The soil data considered in the screening level ecological risk assessment and included in the summary statistics are presented in Table 6-4 Summary of Soil Data Considered in SLERA.
3. The mammal benchmarks were selected based on the following hierarchy: USEPA EcoSSLs if available (2007), USEPA Region 4 Ecological Soil Screening Levels if available (2018), and Department of Energy Laboratories i.e., Los Alamos National Laboratory (2017) if available.
4. The maximum HQs were calculated as the maximum concentration for each COC divided by the applicable mammal benchmark. Maximum HQs greater than 1.0 are bolded.
5. The mean HQs were calculated as the arithmetic mean concentration for each COC divided by the applicable mammal benchmark. Mean HQs greater than 1.0 are bolded.
6. Refined HQs were calculated by adjusting the mean HQ using the following factors (see calculation details in table below References):
   a. An adjustment factor of 0.8 to account for the difference between high-end estimate and mean food intake rate for the short-tailed shrew (USEPA 2007b).
   b. An adjustment factor of 0.1 to reflect an assumed approximate order of magnitude difference between a NOAEL and LOAEL (USEPA 1997b).
7. The BTV HQs were calculated as the BTV for each COC divided by the applicable mammal benchmark. BTV HQs equal to or greater than 1 are bolded.
8. High molecular weight (HMW) polycyclic aromatic hydrocarbons (PAHs) are composed of four or more benzene rings (USEPA 2007).

Acronyms and Abbreviations:

-- = not available
< = less than
% = percent
BTV = background threshold value
COC = constituent of concern
FOD = frequency of detection
HQ = hazard quotient
LOAEL = lowest observed adverse effect level
mg/kg = milligrams per kilogram
NOAEL = no observed adverse effect level

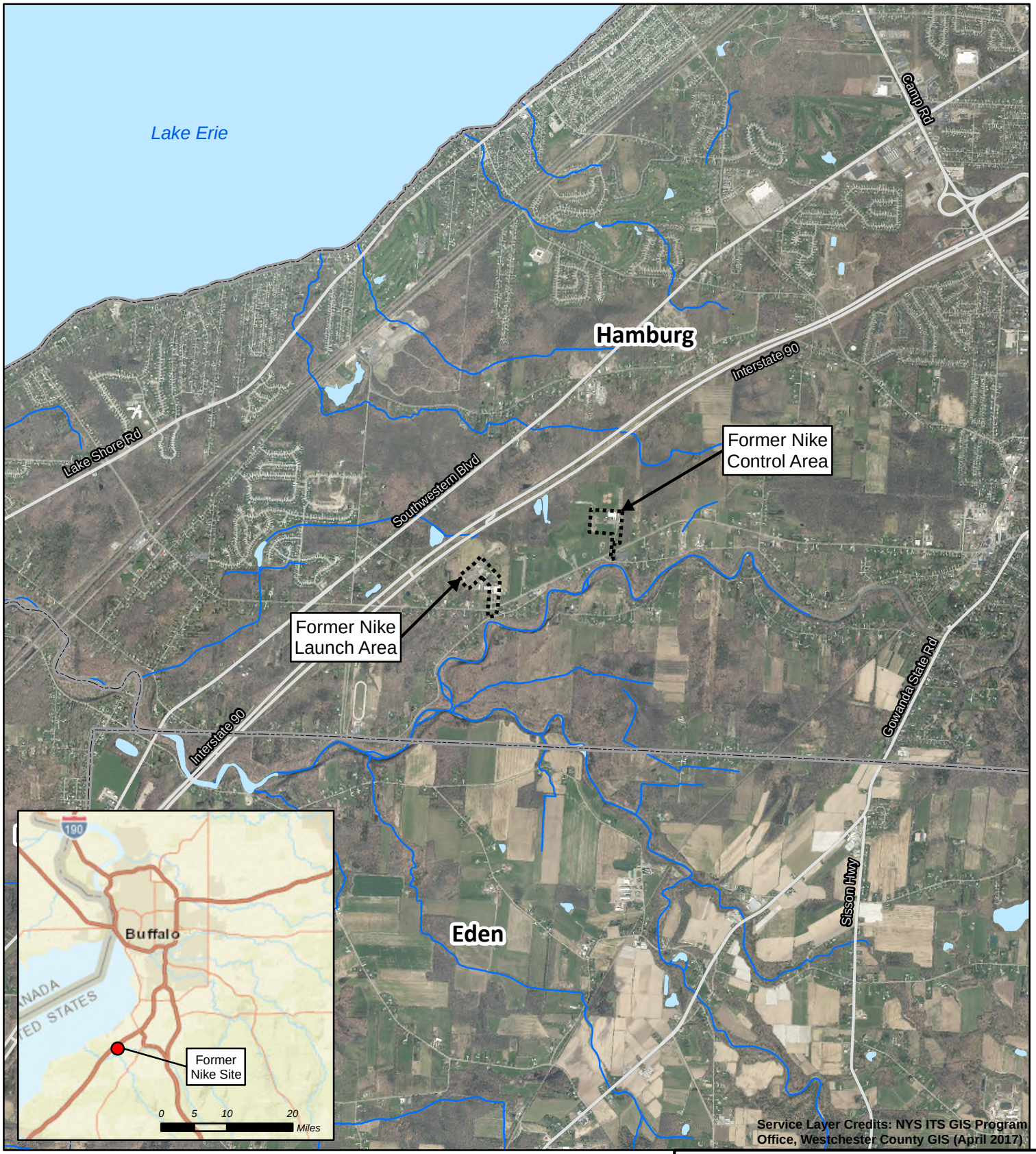
References

Los Alamos National Laboratory (LANL). 2017. ECORISK Database Release 4.1. September 2017.http://www.lanl.gov/environment/protection/eco-risk-assessment.php.
USEPA. 2007. Interim Ecological Soil Screening Level Documents. Available at:https://www.epa.gov/chemical-research/interim-ecological-soil-screening-level-documents.
USEPA. 2018. Region 4 Ecological Risk Assessment Supplemental Guidance. March 2018 Update.

Derivation of HQ adjustment factor (0.8) based on food intake rates for short-tailed shrew

High-end point estimate used to develop EcoSSL	0.209	kg dw / kg BW / day	EcoSSL Attachment 4-1, Table 1 (USEPA 2007b).
Mean intake rate used to develop adjustment factor	0.167	kg dw / kg BW / day	Mean of mean food intake rates (0.124, 0.154, 0.307, 0.173, 0.078) provided in EcoSSL Attachment 4-1, Table 1 (USEPA 2007b).
Ratio of mean to high-end point estimate	0.8	unitless	Equivalent to 0.167 kg dw / kg BW / day divided by 0.209 kg dw / kg BW / day

Figures



Former Nike Launch and Control Areas (Approx.)
Waterbody
Streams and Rivers
Major Roads
Town Boundaries

N W E S

0 0.5 1 2 Miles

Coordinate System: NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Source: GZA, 1999; Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS

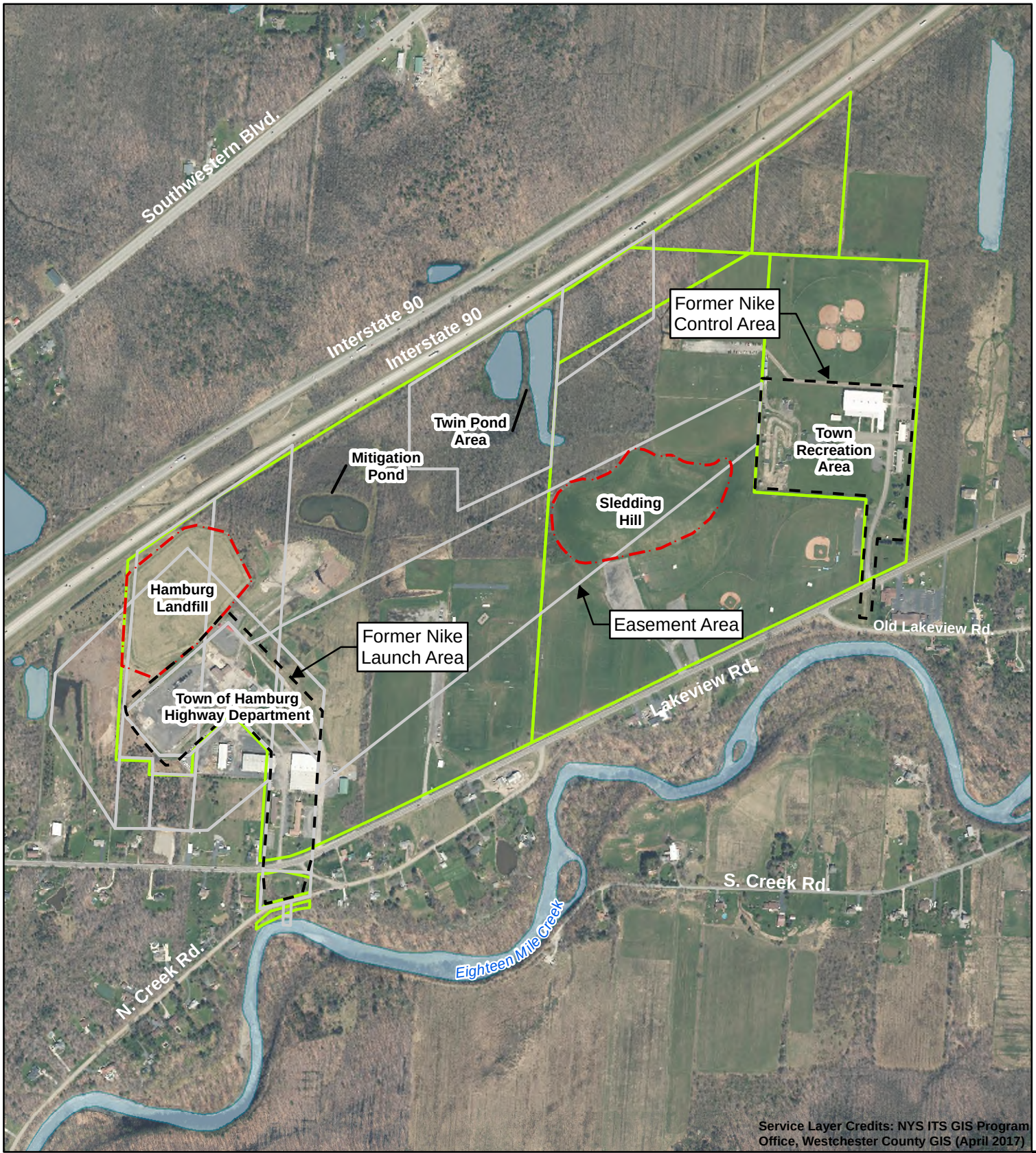
FORMER NIKE BU-51/52 LAUNCH AREA REMEDIAL INVESTIGATION

SITE LOCATION

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE 1-1

Document Path: \\10.19.7.200\data_ENV\Nike Project\Mxd\2021\20211217\Figure 1-1_Regional Map.mxd



Former Nike Launch and Control Areas (Approx.)
Other Site Features
Perpetual Easements (Approx.)
Tax Parcel Boundary
Waterbody

0 200 400 800 Feet

N W E S

Coordinate System: NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Source: GZA, 1999

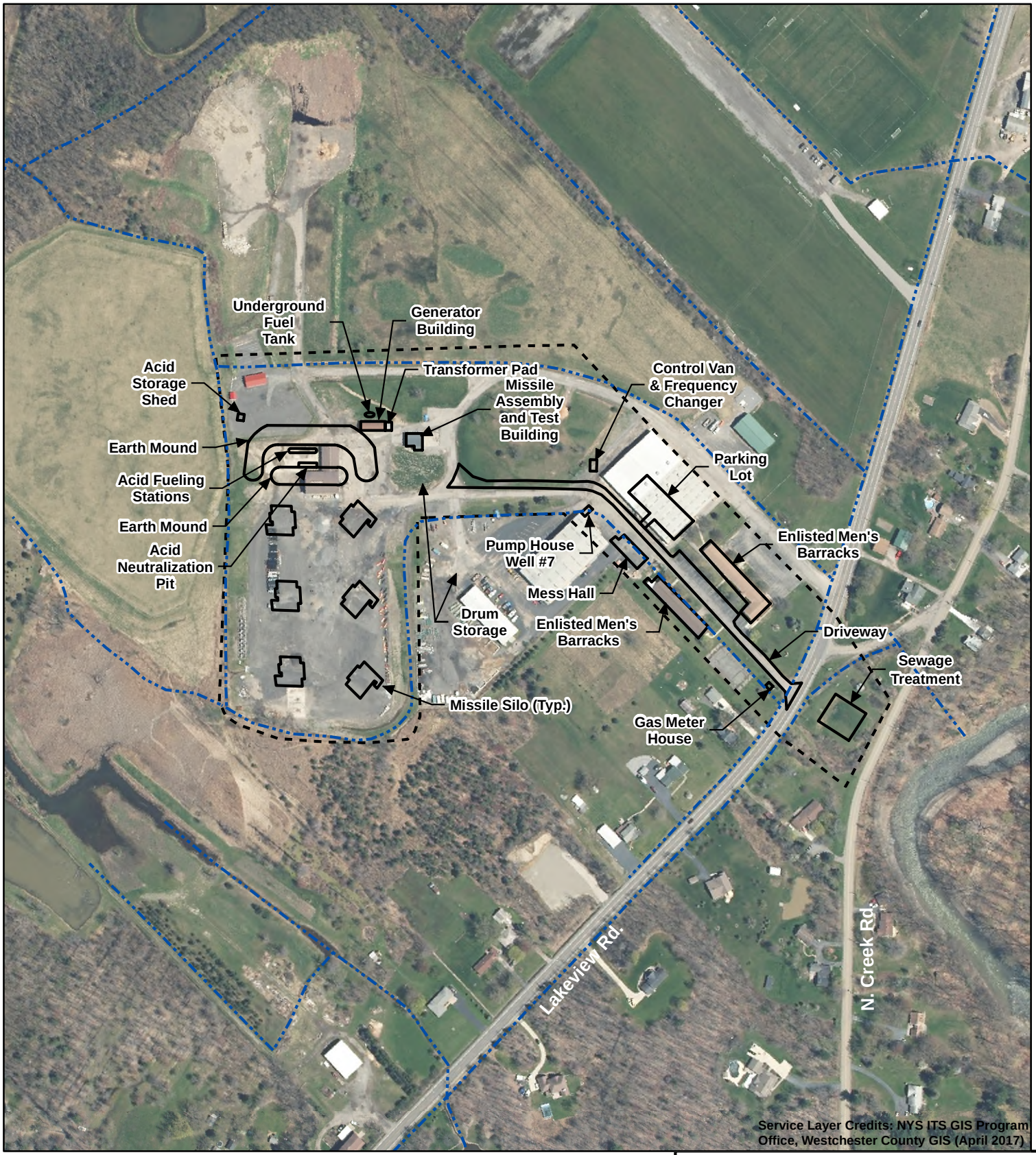
FORMER NIKE BU-51/52 LAUNCH AREA REMEDIAL INVESTIGATION

SITE PLAN

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE 1-2

Document Path: \\10.19.7.200\data_ENV\Nike Project\Mxd\2021\20211217\Figure 1-2_Site Plan.mxd



Artificial Intermittent Stream/Ditch (approx.)
Historical Site Features
Former Nike Launch Area (approx.)

Coordinate System: NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Sources: Battelle, 2000; GZA, 1999

0 200 400 800 Feet

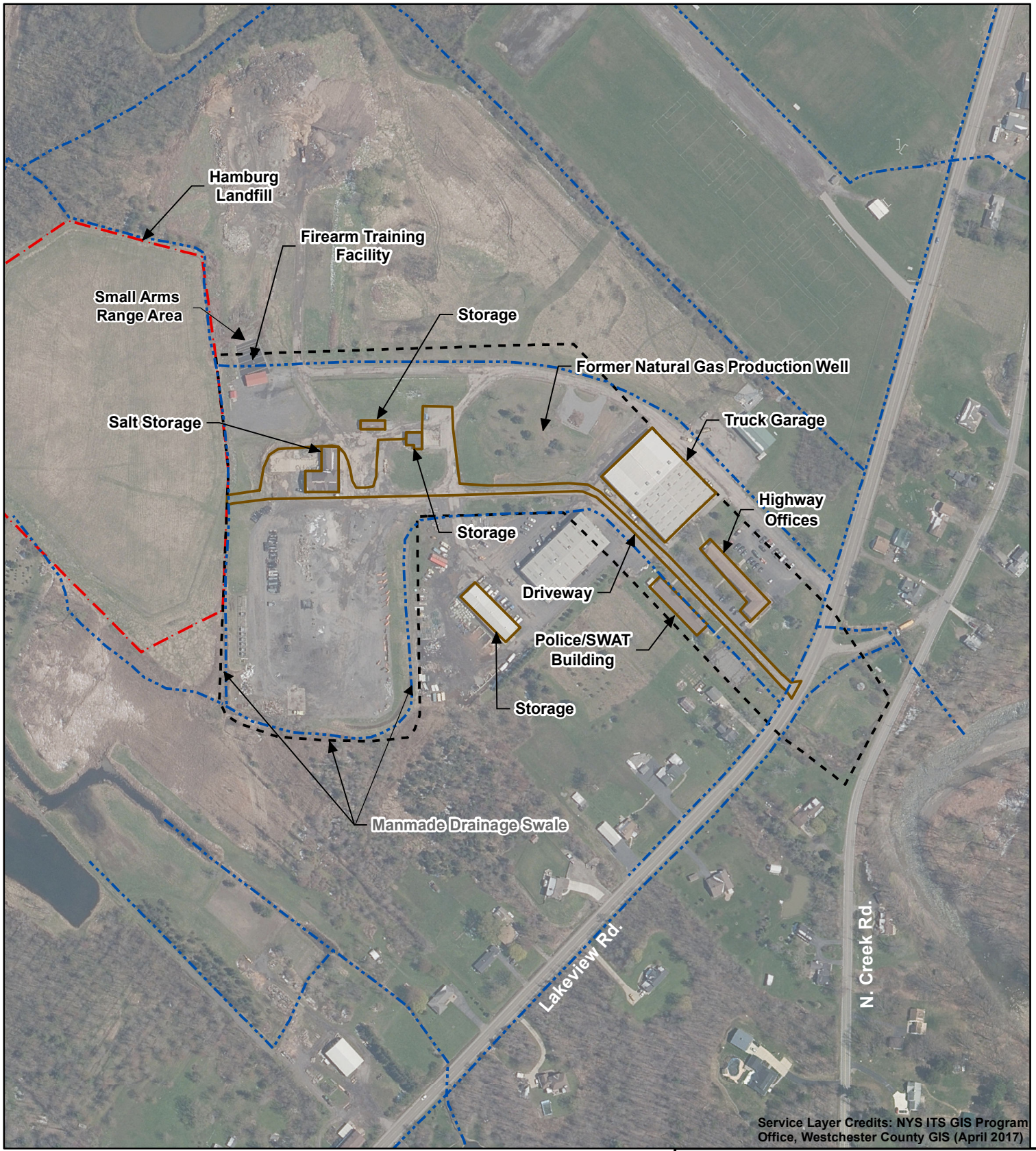
FORMER NIKE BU-51/52 LAUNCH AREA REMEDIAL INVESTIGATION

FORMER LAUNCH AREA HISTORICAL SITE FEATURES

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE 1-3

Document Path: \\10.19.7.200\data_ENV\Nike Project\Mxd\2021\20211217\Figure 1-3_Historical Site Features.mxd



Artificial Intermittent Stream/Ditch (approx.)
Current Site Features
Former Nike Launch Area (approx.)
Landfill

0 200 400 800 Feet

Coordinate System: NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Sources: Battelle, 2000; GZA, 1999

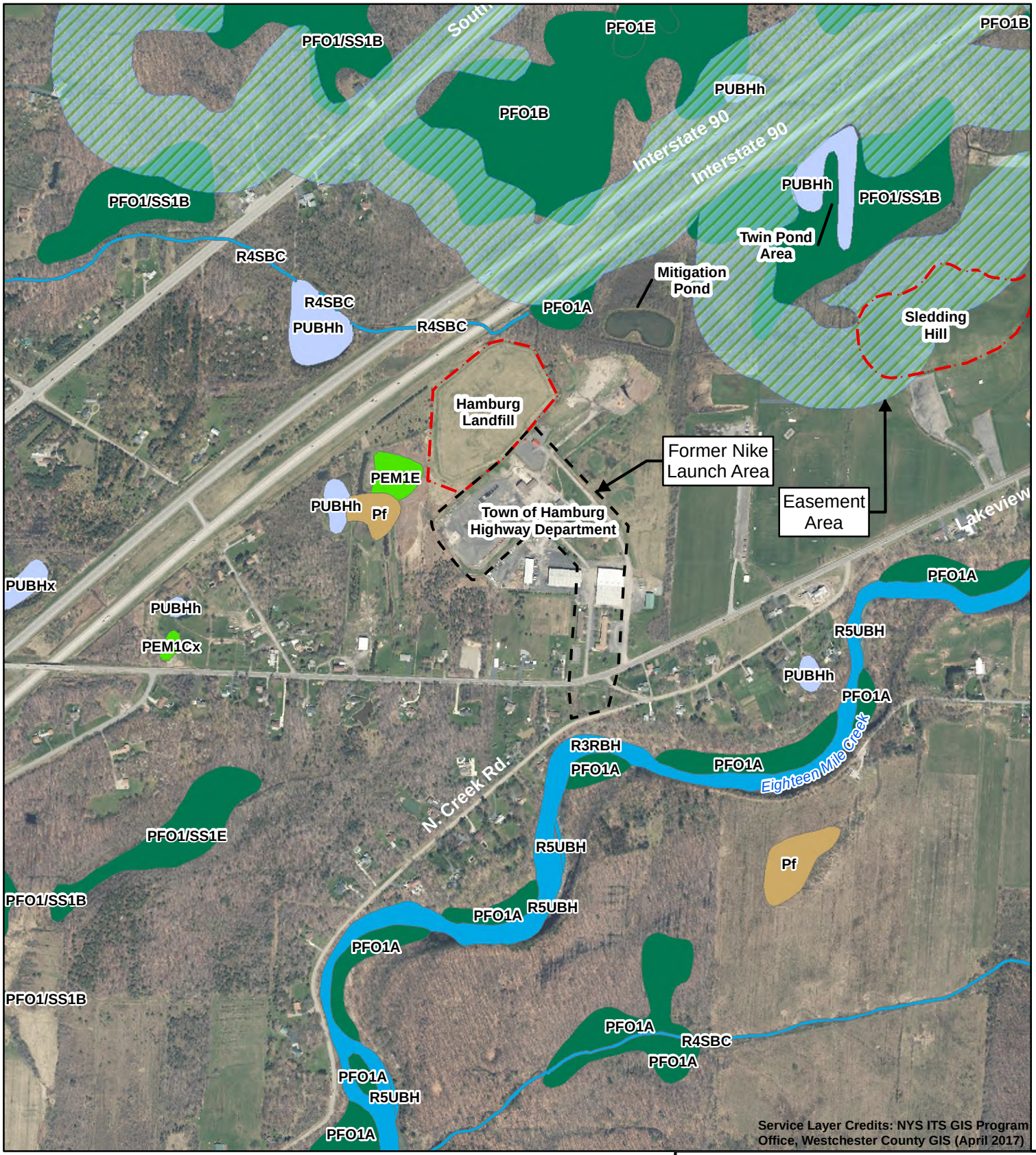
FORMER NIKE BU-51/52 LAUNCH AREA REMEDIAL INVESTIGATION

FORMER LAUNCH AREA CURRENT SITE FEATURES

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE 1-4

Document Path: \\stwvdfs03.file.core.windows.net\data_ENV\Nike Project\Mxd\2021\20211217\Figure 1-4_Current Site Features(10.7).mxd



Former Nike Launch Area (Approx.)
Other Site Features
NYS Regulated Wetland

National Wetlands Inventory
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Other
Riverine

0 200 400 800 Feet

N W E S

Coordinate System: NAD 1983 UTM Zone 18N
Projection: Transverse Mercator Source: GZA, 1999

NWI data downloaded from U.S. Fish & Wildlife Service at www.fws.gov

FORMER NIKE BU-51/52 LAUNCH AREA REMEDIAL INVESTIGATION

REGULATED WETLANDS IN THE VICINITY OF THE FORMER LAUNCH AREA

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE 2-1

Document Path: \\10.19.7.200\data_ENV\Nike Project\Mxd\2021\20211217\Figure 2-1_RegulatedWetlands.mxd

Document Path: \\10.19.7.200\data_ENV\Nike Project\Mxd\2021\20211217\Figure 2-1_RegulatedWetlands_buffer.mxd

FORMER NIKE BU-51/52 LAUNCH AREA
REMEDIAL INVESTIGATION

REGULATED WETLANDS IN THE VICINITY OF THE FORMER LAUNCH AREA

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE 2-1

DRAFT

Legend

- Overburden Monitoring Well
- Bedrock Monitoring Well
- *Decommissioned Well*
- Former Launch Area (approximate)
- Reference Area (approximate)
- Tax Parcel Boundary
- 2020 Survey Features

0 50 100 200 300 400 *Feet*

N E S W

NOTES:
COORDINATE SYSTEM: NEW YORK STATE PLANE WEST, NAD 1983
SURVEY: KHEOPS ARCHITECTURE, ENGINEERING & SURVEY, DECEMBER 7, 2020

FORMER NIKE BU-51/52 LAUNCH AREA

REMEDIAL INVESTIGATION

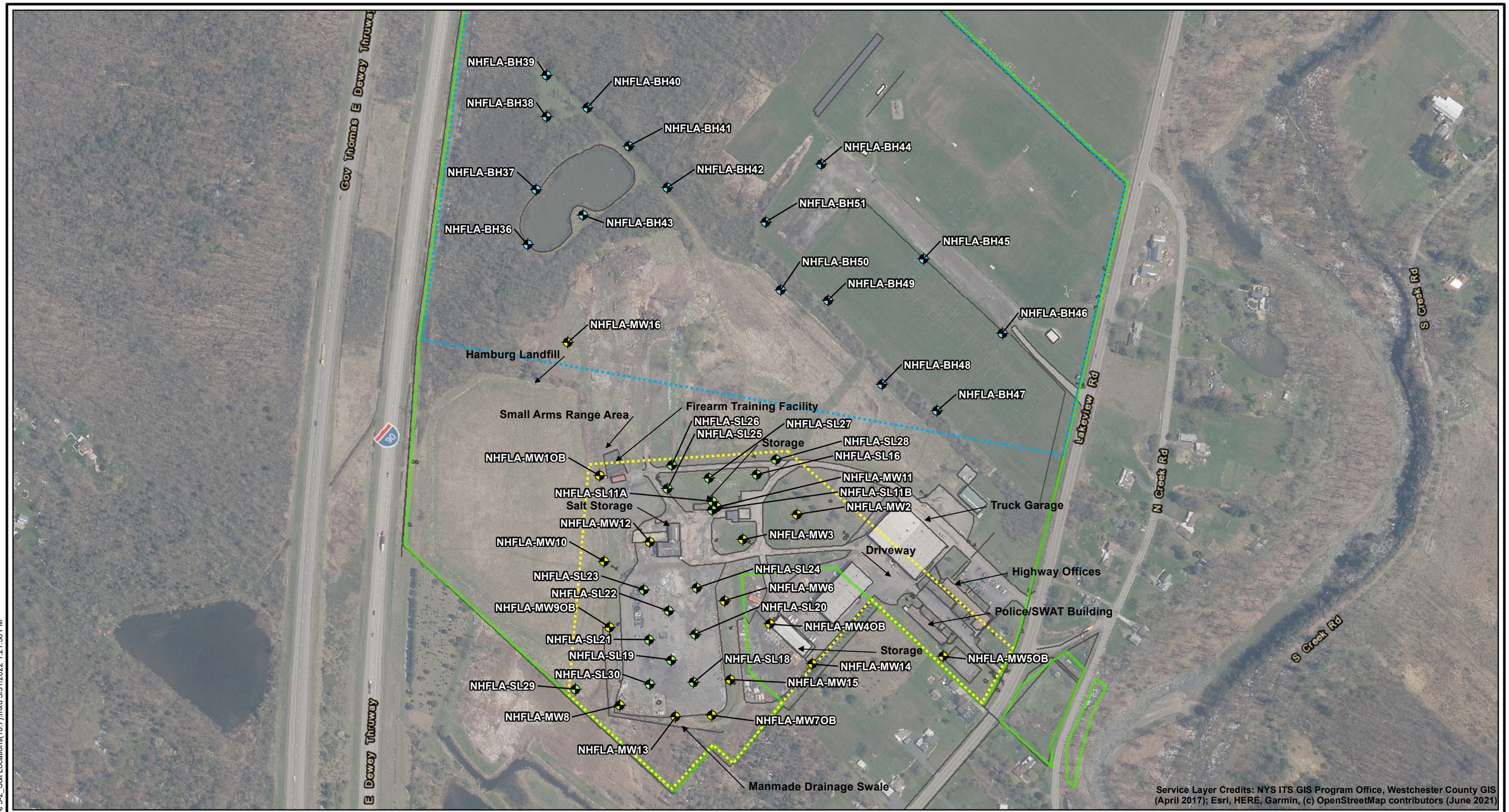
MONITORING WELL LOCATIONS

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE 3-1

City: Clifton Park Div/Group: ENV Created By: Last Saved By: tdoerfken
Project 30027953
\\10.19.7.200\data_ENV\Nike Project\Mxd\2021\20211217\Figure 3-1_Well Locations.mxd 2021-12-20 11:22:34 AM

DRAFT



Legend

- Reference Soil Sample
- Surface Soil Sample
- Overburden Monitoring Well with Surface and Subsurface Soil Sample
- Former Launch Area (approximate)
- Reference Area (approximate)
- Tax Parcel Boundary
- 2020 Survey Features

0 100 200 400 600 800 Feet

N E S W

NOTES:
COORDINATE SYSTEM: NEW YORK STATE PLANE WEST, NAD 1983
SURVEY: KHEOPS ARCHITECTURE, ENGINEERING & SURVEY, DECEMBER 7, 2020

FORMER NIKE BU-51/52 LAUNCH AREA

REMEDIAL INVESTIGATION

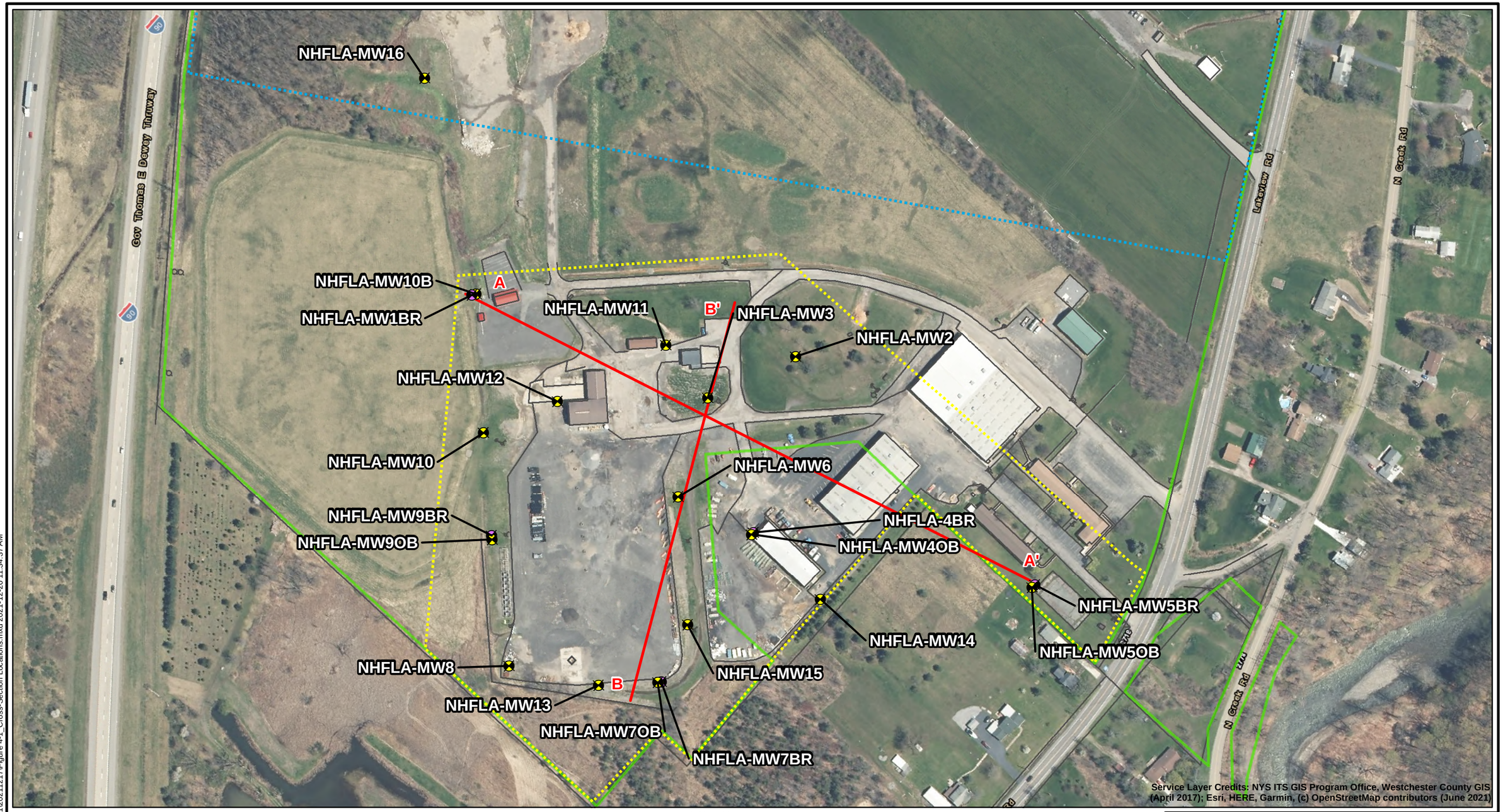
SOIL SAMPLING LOCATIONS

SERES Engineering & Services, LLC
ARCADIS
a joint venture

FIGURE 3-2

City: Clifton Park Div/Group: ENV Created By:
Last Saved By: Giroux
Project 30027953
T:_ENV\Nike Project\Mxd\2021\20211217\Figure 3-2_Soil Locations(10.7).mxd 3/31/2022 1:21:30 PM

DRAFT



Legend

- Overburden Monitoring Well
- Bedrock Monitoring Well
- Geologic Cross-Section Transect
- Former Launch Area (approximate)
- Reference Area (approximate)
- Tax Parcel Boundary
- 2020 Survey Features

0 50 100 200 300 400 Feet

N E S W

NOTES:
COORDINATE SYSTEM: NEW YORK STATE PLANE WEST, NAD 1983
SURVEY: KHEOPS ARCHITECTURE, ENGINEERING & SURVEY, DECEMBER 7, 2020

FORMER NIKE BU-51/52 LAUNCH AREA

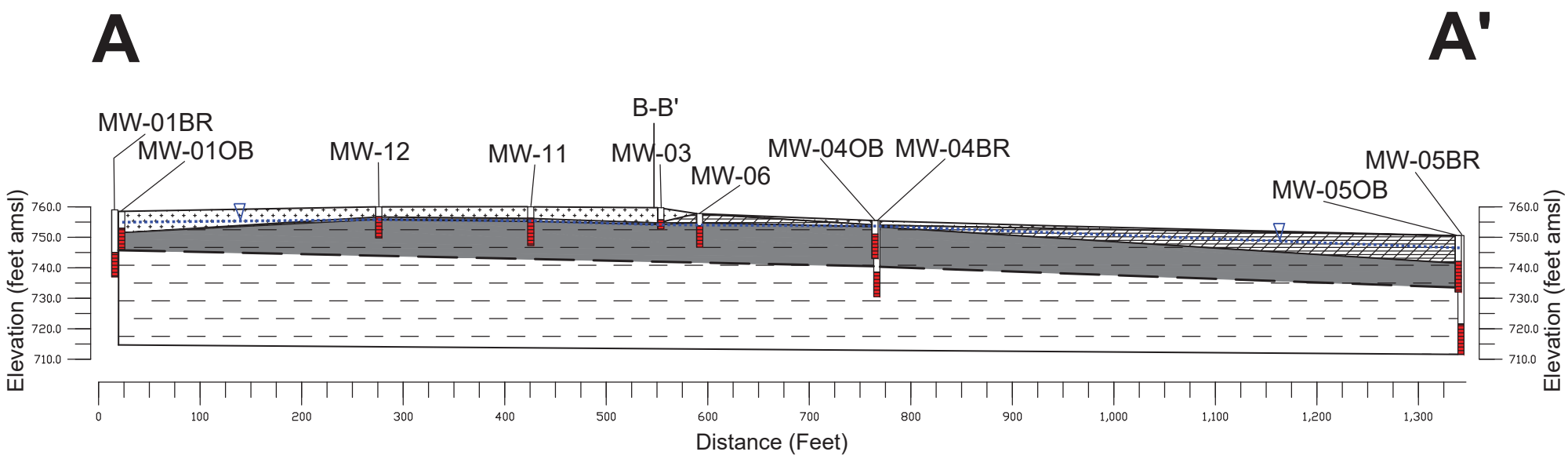
REMEDIAL INVESTIGATION

CROSS-SECTION LOCATIONS

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE 4-1

City: Clifton Park Div/Group: ENV Created By: Last Saved By: tdoerken
Project 30027953
\\10.19.7.200\data_ENV\Nike ProjectMxd\20212021121217\Figure 4-1_Cross-Section Locations.mxd 2021-12-20 11:34:37 AM



LEGEND

- Fill
- Shale
- Weathered Shale
- Silt and Clay
- Inferred Contact
- Observed Contact
- Water Table

Vertical Exaggeration = 3

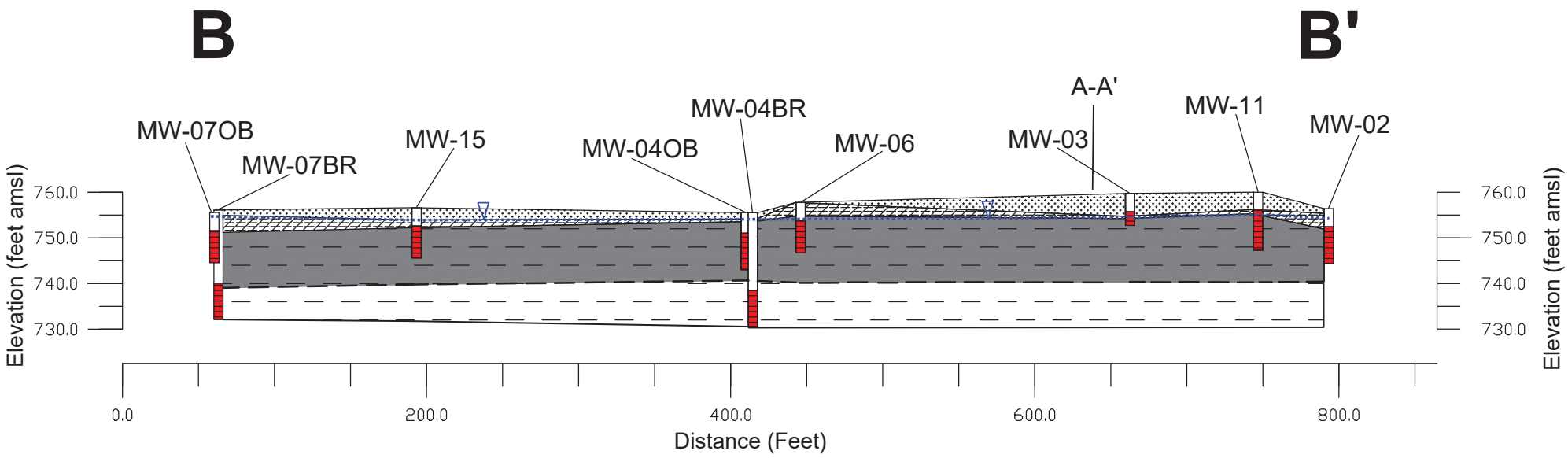
Well ID
Riser
Screen

FORMER NIKE BU-51/52 LAUNCH AREA
REMEDIAL INVESTIGATION

Cross Section A-A'

ARCADIS Design & Consultancy for natural and built assets

FIGURE 4-2



LEGEND

- Fill
- Shale
- Weathered Shale
- Silt and Clay
- Inferred Contact
- Observed Contact
- Water Table

Vertical Exaggeration = 3

Well ID
Riser
Screen

FORMER NIKE BU-51/52 LAUNCH AREA
REMEDIAL INVESTIGATION

Cross Section B-B'

ARCADIS Design & Consultancy for natural and built assets

FIGURE 4-3

DRAFT

OVERBURDEN

NHFLA-MW16
757.83

757

756

NHFLA-MW1OB
755.48

755

NHFLA-MW11
754.18

NHFLA-MW2
752.98

NHFLA-MW3
753.51

NHFLA-MW10
754.11

NHFLA-MW12
754.03

753

752

NHFLA-MW6
753.1

NHFLA-MW9OB
753.01

NHFLA-MW4OB
751.66

751

750

749

NHFLA-MW14
751.13

NHFLA-MW5OB
747.85

NHFLA-MW8
752.12

NHFLA-MW15
752.19

NHFLA-MW13
751.79

NHFLA-MW7OB
751.43

Lakeview Rd

Service Layer Credits: NYS ITS GIS Program Office, Westchester County GIS (April 2017); Esri, HERE, Garmin, (c) OpenStreetMap contributors (June 2021)

BEDROCK

NHFLA-MW1BR
755.09

755

753

751

749

747

745

NHFLA-MW9BR
753.32

NHFLA-4BR
744.3

NHFLA-MW5BR
715.19

NHFLA-MW7BR
751.79

Lakeview Rd

Service Layer Credits: NYS ITS GIS Program Office, Westchester County GIS (April 2017); Esri, HERE, Garmin, (c) OpenStreetMap contributors (June 2021)

Legend

- Overburden Monitoring Well
- Bedrock Monitoring Well
- Groundwater Elevation Contour Overburden
- Groundwater Elevation Contour Bedrock
- Groundwater Flow Direction
- 759 Groundwater Elevation (feet amsl)
- Tax Parcel Boundary
- 2020 Survey Features

0 100 200 400 600 800 Feet

N E S W

NOTES:
GROUNDWATER LEVELS GAUGED ON SEPTEMBER 23, 2020.
* - NOT USED FOR CONTOURING.
amsl - ABOVE MEAN SEA LEVEL.
COORDINATE SYSTEM: NEW YORK STATE PLANE WEST, NAD 1983
PRELIMINARY SURVEY: KHEOPS ARCHITECTURE, ENGINEERING & SURVEY, DECEMBER 7, 2020

FORMER NIKE BU-51/52 LAUNCH AREA

REMEDIAL INVESTIGATION

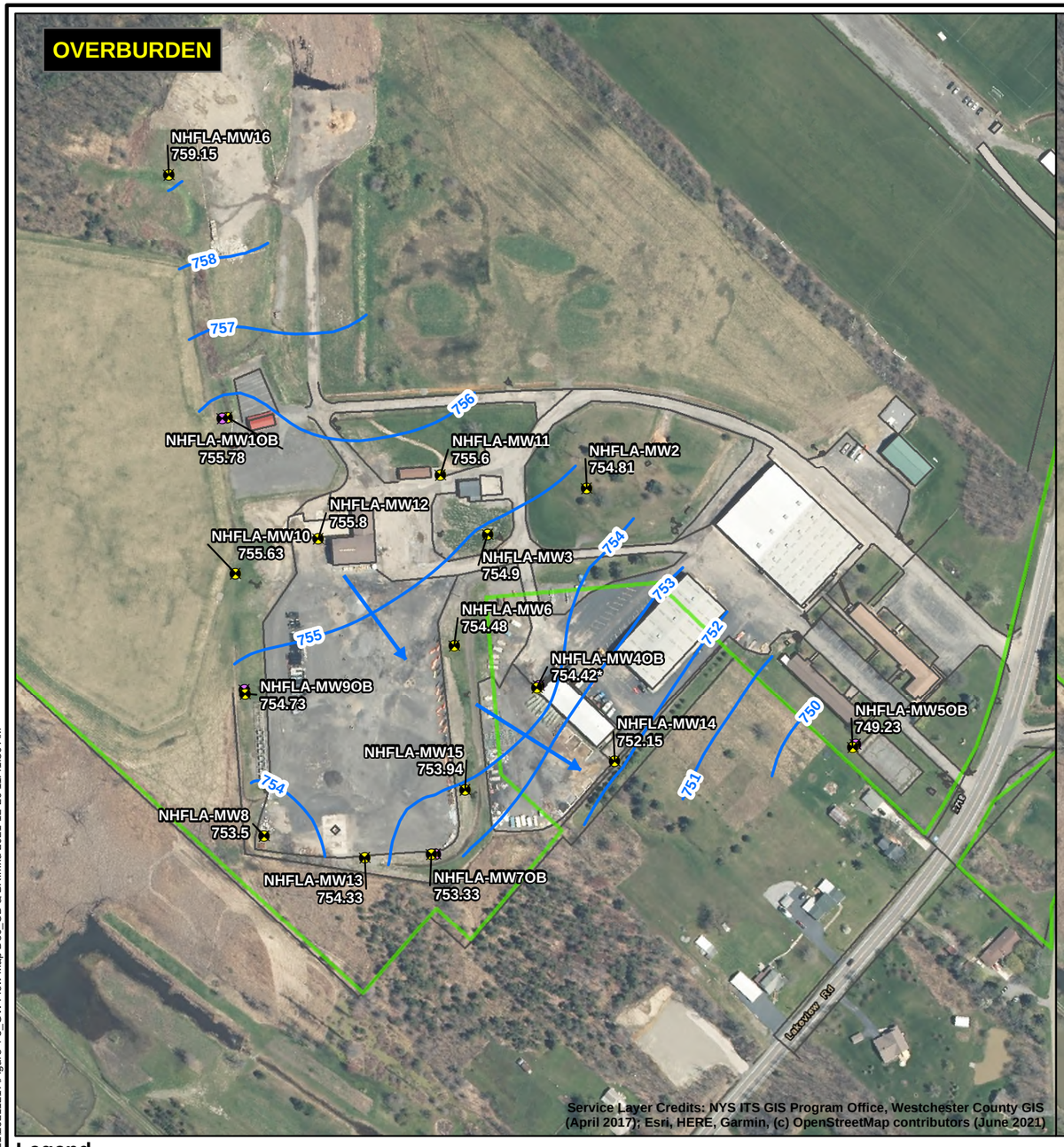
GROUNDWATER POTENTIOMETRIC CONTOURS IN OVERBURDEN AND BEDROCK SEPTEMBER 2020 MONITORING EVENT

SERES ARCADIS a joint venture

FIGURE 4-4

City: Clifton Park Div/Group: ENV Created By: Last Saved By: tdoerken
Project 30027953
\\10.19.7.200\data_ENV\Nike ProjectMxd\20212021217\Figure 4-4_GW Flow Map Sep_OB & BR.mxd 2021-12-20 11:37:43 AM

DRAFT



Legend

- Overburden Monitoring Well
- Bedrock Monitoring Well
- Groundwater Elevation Contour Overburden
- Groundwater Elevation Contour Bedrock
- Groundwater Flow Direction
- 759 Groundwater Elevation (feet amsl)
- Tax Parcel Boundary
- 2020 Survey Features

0 100 200 400 600 800 Feet

N E S W

NOTES:
GROUNDWATER LEVELS GAUGED ON DECEMBER 15, 2020.
* - NOT USED FOR CONTOURING.
amsl - ABOVE MEAN SEA LEVEL.
COORDINATE SYSTEM: NEW YORK STATE PLANE WEST, NAD 1983
PRELIMINARY SURVEY: KHEOPS ARCHITECTURE, ENGINEERING & SURVEY, DECEMBER 7, 2020

FORMER NIKE BU-51/52 LAUNCH AREA

REMEDIAL INVESTIGATION

GROUNDWATER POTENTIOMETRIC CONTOURS IN OVERBURDEN AND BEDROCK DECEMBER 2020 MONITORING EVENT

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE 4-5

City: Clifton Park Div/Group: ENV Created By: Last Saved By: tdoerken
Project 30027953
\\10.19.7.200\data_ENV\Nike ProjectMxd\20211202\20211217\Figure 4-5_GW Flow Map Dec_OB & BR.mxd 2021-12-20 11:41:30 AM

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NHFLA-MW1OB			
Sample ID [1]	NHFLA-MW1OB-A-AUG2020	NHFLA-MW1OB-B-AUG2020	NHFLA-MW1OB-C-AUG2020
Depth (ft bgs)	0 - 1	1 - 3	5 - 7
PAH (µg/kg)			
Benzo(a)anthracene	71	430	1100
Benzo(a)pyrene	72	380	1000
Benzo(b)fluoranthene	130	620	1300
Dibenz(a,h)anthracene	14.0 J	86	150
Indeno(1,2,3-cd)pyrene	49	280	710

NHFLA-MW16 (upgradient)			
Sample ID [1]	NHFLA-MW16-A-AUG2020	NHFLA-MW16-B-AUG2020	NHFLA-MW16-C-AUG2020
Depth (ft bgs)	0.5 - 1	1 - 3	15 - 17
PAH (µg/kg)			
Benzo(a)anthracene	310	520	21.0 J
Benzo(a)pyrene	240 J	330 J	14.0 J
Benzo(b)fluoranthene	410	680	30
Dibenz(a,h)anthracene	45	81	12.0 U
Indeno(1,2,3-cd)pyrene	160	230	23.0 U

NHFLA-MW3				
Sample ID [1]	NHFLA-MW3-A-AUG2020	NHFLA-DUP3-AUG2020 (FD)	NHFLA-MW3-B-AUG2020	NHFLA-DUP4-AUG2020 (FD)
Depth (ft bgs)	0 - 1	0 - 1	1 - 3	1 - 3
PAH (µg/kg)				
Benzo(a)anthracene	460	570	230 J	180 J
Benzo(a)pyrene	500	720	250 J	200 J
Benzo(b)fluoranthene	790	900	350 J	280 J
Dibenz(a,h)anthracene	94	130	47.0 J	25.0 J
Indeno(1,2,3-cd)pyrene	300	420	140 J	140 J

NHFLA-MW6		
Sample ID [1]	NHFLA-MW6-A-AUG2020	NHFLA-MW6-B-AUG2020
Depth (ft bgs)	0 - 1	1 - 3
PAH (µg/kg)		
Benzo(a)anthracene	780	15.0 J
Benzo(a)pyrene	880	15.0 J
Benzo(b)fluoranthene	1200 J	23.0 J
Dibenz(a,h)anthracene	160	2.70 J
Indeno(1,2,3-cd)pyrene	400	7.80 J

NHFLA-MW4OB		
Sample ID [1]	NHFLA-MW4OB-A-SEP2020	NHFLA-MW4OB-B-SEP2020
Depth (ft bgs)	0 - 1	1 - 3
PAH (µg/kg)		
Benzo(a)anthracene	230	28
Benzo(a)pyrene	260	30
Benzo(b)fluoranthene	400	52
Dibenz(a,h)anthracene	52	6.10 J
Indeno(1,2,3-cd)pyrene	400	42

NHFLA-MW10			
Sample ID [1]	NHFLA-MW10-A-AUG2020	NHFLA-MW10-B-AUG2020	NHFLA-MW10-C-AUG2020
Depth (ft bgs)	0 - 1	1 - 3	3 - 4
PAH (µg/kg)			
Benzo(a)anthracene	400	100	39
Benzo(a)pyrene	290	79	32
Benzo(b)fluoranthene	470	170	73
Dibenz(a,h)anthracene	60	23	12.0 J
Indeno(1,2,3-cd)pyrene	180	60	28

NHFLA-MW14		
Sample ID [1]	NHFLA-MW14-A-SEP2020	NHFLA-MW14-B-SEP2020
Depth (ft bgs)	0 - 1	1.3 - 2.8
PAH (µg/kg)		
Benzo(a)anthracene	8500	140
Benzo(a)pyrene	9600	160
Benzo(b)fluoranthene	13000	200
Dibenz(a,h)anthracene	1400	30
Indeno(1,2,3-cd)pyrene	6000	110

NHFLA-MW9OB		
Sample ID [1]	NHFLA-MW9OB-A-AUG2020	NHFLA-MW9OB-B-AUG2020
Depth (ft bgs)	0 - 0.4	1.4 - 3
PAH (µg/kg)		
Benzo(a)anthracene	180	69
Benzo(a)pyrene	200	56
Benzo(b)fluoranthene	290	81
Dibenz(a,h)anthracene	55	12.0 J
Indeno(1,2,3-cd)pyrene	150	30

NHFLA-MW15					
Sample ID [1]	NHFLA-MW15-A-AUG2020	NHFLA-DUP1-AUG2020 (FD)	NHFLA-MW15-B-AUG2020	NHFLA-DUP2-AUG2020 (FD)	NHFLA-MW15-C-AUG2020
Depth (ft bgs)	0 - 1	0 - 1	1 - 3	1 - 3	3 - 4.4
PAH (µg/kg)					
Benzo(a)anthracene	3700 J	1000 J	850 J	340 J	13.0 U
Benzo(a)pyrene	3000 J	920 J	670 J	310 J	13.0 U
Benzo(b)fluoranthene	3600 J	980 J	840 J	380 J	13.0 UJ
Dibenz(a,h)anthracene	320 J	130 J	100 J	54.0 J	13.0 U
Indeno(1,2,3-cd)pyrene	1500 J	430 J	350 J	140 J	13.0 U

NHFLA-MW8			
Sample ID [1]	NHFLA-MW8-A-SEP2020	NHFLA-MW8-B-SEP2020	NHFLA-DUP5-SEP2020 (FD)
Depth (ft bgs)	0 - 0.3	1 - 3	1 - 3
PAH (µg/kg)			
Benzo(a)anthracene	280	8.20 J	5.90 J
Benzo(a)pyrene	450	7.20 J	6.30 J
Benzo(b)fluoranthene	450	14.0 J	10.0 J
Dibenz(a,h)anthracene	64	11.0 U	12.0 U
Indeno(1,2,3-cd)pyrene	430	11.0 U	8.50 J

NHFLA-MW13			
Sample ID [1]	NHFLA-MW13-A-AUG2020	NHFLA-MW13-B-AUG2020	NHFLA-MW13-C-AUG2020
Depth (ft bgs)	0 - 1	1 - 3	3.5 - 5.5
PAH (µg/kg)			
Benzo(a)anthracene	460	8.90 J	13.0 J
Benzo(a)pyrene	320	10.0 J	11.0 J
Benzo(b)fluoranthene	600	18.0 J	20.0 J
Dibenz(a,h)anthracene	50	12.0 U	12.0 U
Indeno(1,2,3-cd)pyrene	470	9.80 J	12.0 J

NHFLA-MW7OB			
Sample ID [1]	NHFLA-MW7OB-A-AUG2020	NHFLA-MW7OB-B-AUG2020	NHFLA-MW7OB-C-AUG2020
Depth (ft bgs)	0 - 0.5	1.2 - 3	3 - 5
PAH (µg/kg)			
Benzo(a)anthracene	590	3.80 J	4.80 J
Benzo(a)pyrene	610	3.80 J	5.60 J
Benzo(b)fluoranthene	920	6.00 J	12.0 J
Dibenz(a,h)anthracene	100	11.0 U	11.0 U
Indeno(1,2,3-cd)pyrene	360	11.0 U	4.20 J

Soil Screening Criteria		
Polycyclic Aromatic Hydrocarbons (µg/kg)	Residential RSL [2]	Industrial RSL [2]
Benzo(a)anthracene	1100	21000
Benzo(a)pyrene	110	2100
Benzo(b)fluoranthene	1100	21000
Dibenz(a,h)anthracene	110	2100
Indeno(1,2,3-cd)pyrene	1100	21000

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs) and "B" to designate first subsurface interval (generally 1 to 3 ft bgs).

2. Screening levels are the United States Environmental Protection Agency (USEPA) regional screening levels (RSLs) for residential or industrial soil. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

Detected concentrations are bolded.

Detected concentrations that exceed residential RSLs are bolded and shaded yellow.

Detected concentrations that exceed industrial RSLs are bolded and shaded orange.

NHFLA-MW11
NHFLA-MW2
NHFLA-MW12
NHFLA-MW5OB
Lakeview Rd
N Greeley Rd

Service Layer Credits: NYS ITS GIS Program Office, Westchester County GIS (April 2017); Esri, HERE, Garmin, (c) OpenStreetMap contributors (June 2021)

Legend

- Reference Soil Sample
- Surface Soil Sample
- Overburden Monitoring Well with Surface and Subsurface Soil Sample
- Former Launch Area (approximate)
- Reference Area (approximate)
- Tax Parcel Boundary
- 2020 Survey Features

0 100200 400 600 800 Feet

N E S W

NOTES:
SAMPLES COLLECTED AUGUST 18 TO SEPTEMBER 3, 2020.
FD - FIELD DUPLICATE SAMPLE.
ft bgs - FEET BELOW GROUND SURFACE.
PAH - POLYCYCLIC AROMATIC HYDROCARBON.
µg/kg - MICROGRAMS PER KILOGRAM.
J - ESTIMATED VALUE.
U - ANALYTE WAS NOT DETECTED AND WAS REPORTED AS LESS THAN THE LIMIT OF DETECTION (LOD).
R – DATA REJECTED.
COORDINATE SYSTEM: NEW YORK STATE PLANE WEST, NAD 1983
SURVEY: KHEOPS ARCHITECTURE, ENGINEERING & SURVEY, DECEMBER 7, 2020

FORMER NIKE BU-51/52 LAUNCH AREA

REMEDIAL INVESTIGATION

PAH HUMAN HEALTH EXCEEDANCES IN SURFACE AND SUBSURFACE SOIL SAMPLES

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE 4-6a

City: Clifton Park Div/Group: ENV Created By: Last Saved By: tdoerken
Project 30027953
\\10.19.7.200\data_ENV\Nike Project\Mxd\20211202\211217\Figure 4-6a_Soil PAH_Surface & Subsurface Soil.mxd 2021-12-20 9:56:55 AM

DRAFT

NHFLA-MW1OB			
Sample ID [1]	NHFLA-MW1OB-A-AUG2020	NHFLA-MW1OB-B-AUG2020	NHFLA-MW1OB-C-AUG2020
Depth (ft bgs)	0 - 1	1 - 3	5 - 7
Inorganics (mg/kg)			
Aluminum	12700	10700	10600
Arsenic	7.2	6.65	8.04
Chromium, Hexavalent	0.8	0.170 J	0.340 U
Cobalt	9.26	5.9	8.63
Iron	21600	17200	21400
Manganese	364	584	474
Selenium	0.650 J	0.510 J	1.00 J
Thallium	0.360 J	1.00 U	0.560 U
Vanadium	23.8	18.4	22

NHFLA-MW16 (Upgradient)			
Sample ID [1]	NHFLA-MW16-A-AUG2020	NHFLA-MW16-B-AUG2020	NHFLA-MW16-C-AUG2020
Depth (ft bgs)	0.5 - 1	1 - 3	15 - 17
Inorganics (mg/kg)			
Aluminum	8350	11800	13200
Arsenic	5.93	6.78	12.7
Chromium, Hexavalent	1.20 J	0.470 J	0.260 J
Cobalt	6.13	7.1	13.4
Iron	15300	16600	29300
Manganese	293	650	248
Selenium	0.620 J	0.840 J	1.7
Thallium	0.140 J	0.480 U	0.990 J
Vanadium	18.4	20.9	35.4

NHFLA-MW11		
Sample ID [1]	NHFLA-MW11-B-SEP2020	NHFLA-MW11-C-SEP2020
Depth (ft bgs)	1 - 2.1	5 - 6
Inorganics (mg/kg)		
Aluminum	14400	12800
Arsenic	9.24	11.7
Chromium, Hexavalent	0.360 U	0.510 J
Cobalt	11.3	11.3
Iron	27300	26600
Manganese	508	198
Selenium	0.660 J	1.60 J
Thallium	0.970 U	1.08 J
Vanadium	28.6	26.6

NHFLA-MW3				
Sample ID [1]	NHFLA-MW3-A-AUG2020	NHFLA-DUP3-AUG2020 (FD)	NHFLA-MW3-B-AUG2020	NHFLA-DUP4-AUG2020 (FD)
Depth (ft bgs)	0 - 1	0 - 1	1 - 3	1 - 3
Inorganics (mg/kg)				
Aluminum	7760 J	13400 J	13000 J	13200 J
Arsenic	6.11	8.17	9.20 J	10.5 J
Chromium, Hexavalent	0.670 U	0.330 U	0.330 UJ	0.340 UJ
Cobalt	4.17 J	7.14 J	8.85	9.87
Iron	12200	19400	21600 J	28100 J
Manganese	622	811	525	482
Selenium	0.600 J	0.930 J	0.610 J	1.00 J
Thallium	0.490 U	0.550 U	0.430 U	0.240 J
Vanadium	14.7 J	25.5 J	27.0 J	27.9 J

NHFLA-MW2		
Sample ID [1]	NHFLA-MW2-A-AUG2020	NHFLA-MW2-B-AUG2020
Depth (ft bgs)	0 - 1	1 - 3
Inorganics (mg/kg)		
Aluminum	17600	12000
Arsenic	16.1	15.8
Chromium, Hexavalent	0.370 U	0.61
Cobalt	24.7	4.54
Iron	35600	35700
Manganese	676	73.3
Selenium	2.20 J	2.6
Thallium	1.90 J	1.70 J
Vanadium	47.2	30.8

NHFLA-MW6		
Sample ID [1]	NHFLA-MW6-A-AUG2020	NHFLA-MW6-B-AUG2020
Depth (ft bgs)	0 - 1	1 - 3
Inorganics (mg/kg)		
Aluminum	16800	16000
Arsenic	9.24	14
Chromium, Hexavalent	0.740 U	0.360 U
Cobalt	12	4
Iron	27200	22400
Manganese	917	76.6
Selenium	1.6	2.09
Thallium	0.610 U	2.12
Vanadium	31.3	42.4

NHFLA-MW12	
Sample ID [1]	NHFLA-MW12-B-SEP2020
Depth (ft bgs)	2 - 2.1
Inorganics (mg/kg)	
Aluminum	12400
Arsenic	9.26
Chromium, Hexavalent	0.320 U
Cobalt	3.75
Iron	17800
Manganese	1170
Selenium	0.870 J
Thallium	0.640 J
Vanadium	16.5

NHFLA-MW10			
Sample ID [1]	NHFLA-MW10-A-AUG2020	NHFLA-MW10-B-AUG2020	NHFLA-MW10-C-AUG2020
Depth (ft bgs)	0 - 1	1 - 3	3 - 4
Inorganics (mg/kg)			
Aluminum	14600	12300	10900
Arsenic	9.37	7.33	11.1
Chromium, Hexavalent	0.320 U	0.170 J	0.720 U
Cobalt	9.18	7.16	3.28
Iron	23500 J	19800	22200
Manganese	721 J	413	96.3
Selenium	1.3	1.2	1.7
Thallium	0.170 J	0.420 U	1.40 J
Vanadium	29.2 J	23.3	33.9

NHFLA-MW9OB		
Sample ID [1]	NHFLA-MW9OB-A-AUG2020	NHFLA-MW9OB-B-AUG2020
Depth (ft bgs)	0 - 0.4	1.4 - 3
Inorganics (mg/kg)		
Aluminum	14800	10600
Arsenic	9.02	7.58
Chromium, Hexavalent	1.40 U	0.980 J
Cobalt	12.1	6.31
Iron	25300	20000
Manganese	475	236
Selenium	1.3	1.1
Thallium	0.150 J	0.480 J
Vanadium	26.6	22.7

NHFLA-MW4OB		
Sample ID 1	NHFLA-MW4OB-A-SEP2020	NHFLA-MW4OB-B-SEP2020
Depth (ft bgs)	0 - 1	1 - 3
Inorganics (mg/kg)		
Aluminum	10900	10100
Arsenic	13.8	9.64
Chromium, Hexavalent	0.250 J	0.360 J
Cobalt	4.9	2.46
Iron	33700	18400
Manganese	580	142
Selenium	2.4	1.5
Thallium	0.750 J	1.71
Vanadium	23.4	25.6

NHFLA-MW5OB			
Sample ID [1]	NHFLA-MW5OB-A-AUG2020	NHFLA-MW5OB-B-AUG2020	NHFLA-MW5OB-C-AUG2020
Depth (ft bgs)	0 - 1	1 - 3	15 - 17
Inorganics (mg/kg)			
Aluminum	13500	18800	8080
Arsenic	7.16	10.1	9.94
Chromium, Hexavalent	1.60 U	0.260 J	0.310 U
Cobalt	7.9	12	9.46
Iron	23000	33300	21800
Manganese	428	531	194
Selenium	1.00 J	1.70 J	1.4
Thallium	1.10 U	1.00 U	1.40 J
Vanadium	31.9	43.1	21.9

NHFLA-MW14		
Sample ID [1]	NHFLA-MW14-A-SEP2020	NHFLA-MW14-B-SEP2020
Depth (ft bgs)	0 - 1	1.3 - 2.8
Inorganics (mg/kg)		
Aluminum	11200	15700
Arsenic	8.33	9.99
Chromium, Hexavalent	0.670 U	0.340 U
Cobalt	6.41	6.51
Iron	17900	21700
Manganese	383	445
Selenium	0.850 J	1.4
Thallium	1.03 J	1.48 J
Vanadium	27.2	33.4

NHFLA-MW15					
Sample ID [1]	NHFLA-MW15-A-AUG2020	NHFLA-DUP1-AUG2020 (FD)	NHFLA-MW15-B-AUG2020	NHFLA-DUP2-AUG2020 (FD)	NHFLA-MW15-C-AUG2020
Depth (ft bgs)	0 - 1	0 - 1	1 - 3	1 - 3	3 - 4.4
Inorganics (mg/kg)					
Aluminum	14100	14300	12700	14100	20300
Arsenic	10	9.98	9.87 J	9.72 J	11.3
Chromium, Hexavalent	0.340 UJ	0.340 UJ	0.330 U	0.310 U	0.470 J
Cobalt	11.1	11.1	10.2	10.3	3.25
Iron	27800 J	23000 J	24000 J	22400 J	36200
Manganese	2630 J	828 J	653 J	572 J	36
Selenium	1.40 J	1.20 J	0.760 J	1.6	2.2
Thallium	0.920 U	0.800 U	0.850 U	0.520 J	4.07
Vanadium	42.1	31	26.1	28.7	41.4

NHFLA-MW8			
Sample ID [1]	NHFLA-MW8-A-SEP2020	NHFLA-MW8-B-SEP2020	NHFLA-DUP5-SEP2020 (FD)
Depth (ft bgs)	0 - 0.3	1 - 3	1 - 3
Inorganics (mg/kg)			
Aluminum	14900	16200	15500
Arsenic	3.9	10.8	11.3
Chromium, Hexavalent	0.320 U	0.350 U	0.350 U
Cobalt	2.57	7.68	4.9
Iron	23200	26800	26800
Manganese	1420	452	400
Selenium	1.2	1.20 J	1.30 J
Thallium	0.520 U	0.980 J	1.20 J
Vanadium	12.4	40.1	44.7

NHFLA-MW13			
Sample ID [1]	NHFLA-MW13-A-AUG2020	NHFLA-MW13-B-AUG2020	NHFLA-MW13-C-AUG2020
Depth (ft bgs)	0 - 1	1 - 3	3.5 - 5.5
Inorganics (mg/kg)			
Aluminum	6900	10800	14300
Arsenic	8.71	10.3	14.6
Chromium, Hexavalent	0.320 U	0.340 U	0.350 U
Cobalt	5.4	8.59	6.68
Iron	17500	21800	33800
Manganese	581	384	247
Selenium	2.80 U	1.2	1.60 J
Thallium	2.00 U	0.360 J	0.790 J
Vanadium	18.8	24.2	32.8

NHFLA-MW7OB			
Sample ID [1]	NHFLA-MW7OB-A-AUG2020	NHFLA-MW7OB-B-AUG2020	NHFLA-MW7OB-C-AUG2020
Depth (ft bgs)	0 - 0.5	1.2 - 3	3 - 5
Inorganics (mg/kg)			
Aluminum	16500	11700	11700
Arsenic	6.33	8.76	9.89
Chromium, Hexavalent	0.380 J	0.330 U	0.330 U
Cobalt	5.39	11.2	11.5
Iron	17100	25700	25500
Manganese	1610	532	324
Selenium	1.6	1.2	3.20 U
Thallium	0.530 U	0.0960 J	0.840 J
Vanadium	19.6	23.4	28.3

Soil Screening Criteria		
Inorganics (mg/kg)	Residential RSL [2]	Industrial RSL [2]
Aluminum	7,700	110,000
Arsenic	0.68	3
Chromium, Hexavalent	0.3	6.3
Cobalt	2.3	35
Iron	5,500	82,000
Manganese	180	2,600
Selenium	39	580
Thallium	0.078	1.2
Vanadium	39	580

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs) and "B" to designate first subsurface interval (generally 1 to 3 ft bgs).

2. Screening levels are the United States Environmental Protection Agency (USEPA) regional screening levels (RSLs) for residential or industrial soil. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

Detected concentrations are bolded.

Detected concentrations that exceed residential RSLs are bolded and shaded yellow.

Detected concentrations that exceed industrial RSLs are bolded and shaded orange.

Service Layer Credits: NYS ITS GIS Program Office, Westchester County GIS (April 2017); Esri, HERE, Garmin, (c) OpenStreetMap contributors (June 2021)

Legend

- Reference Soil Sample
- Surface Soil Sample
- Overburden Monitoring Well with Surface and Subsurface Soil Sample
- Former Launch Area
- Reference Area
- Tax Parcel Boundary
- 2020 Survey Features

0 100200 400 600 800 Feet

NOTES:
SAMPLES COLLECTED AUGUST 18 TO SEPTEMBER 3, 2020.
FD - FIELD DUPLICATE SAMPLE.
ft bgs - FEET BELOW GROUND SURFACE.
mg/kg - MILLIGRAMS PER KILOGRAM.
J - ESTIMATED VALUE.
U - ANALYTE WAS NOT DETECTED AND WAS REPORTED AS LESS THAN THE LIMIT OF DETECTION (LOD).
R – DATA REJECTED.
COORDINATE SYSTEM: NEW YORK STATE PLANE WEST, NAD 1983
SURVEY: KHEOPS ARCHITECTURE, ENGINEERING & SURVEY, DECEMBER 7, 2020

FORMER NIKE BU-51/52 LAUNCH AREA

REMEDIAL INVESTIGATION

METALS HUMAN HEALTH EXCEEDANCES IN SURFACE AND SUBSURFACE SOIL SAMPLES

SERES ARCADIS a joint venture

FIGURE 4-6b

City: Clifton Park Div/Group: ENV Created By: Last Saved By: tdoerfken
Project 30027953
\\10.19.7.200\data_ENVNike Project\Mxd\2021\2021217\Figure 4-6b_Soil Metal_Surface & Subsurface Soil.mxd 2021-12-20 10:02:35 AM

DRAFT

NHFLA-SL26	
Sample ID [1]	NHFLA-SL26-A-SEP2020
Depth (ft bgs)	0 - 1
PAH (µg/kg)	
Benzo(a)anthracene	**190**
Benzo(a)pyrene	**220**
Benzo(b)fluoranthene	**310**
Dibenz(a,h)anthracene	**56**
Indeno(1,2,3-cd)pyrene	**170**

NHFLA-SL27	
Sample ID [1]	NHFLA-SL27-A-SEP2020
Depth (ft bgs)	0 - 1
PAH (µg/kg)	
Benzo(a)anthracene	**430**
Benzo(a)pyrene	**460**
Benzo(b)fluoranthene	**630**
Dibenz(a,h)anthracene	**88**
Indeno(1,2,3-cd)pyrene	**260**

NHFLA-SL28	
Sample ID [1]	NHFLA-SL28-A-SEP2020
Depth (ft bgs)	0 - 1
PAH (µg/kg)	
Benzo(a)anthracene	**170**
Benzo(a)pyrene	**210**
Benzo(b)fluoranthene	**320**
Dibenz(a,h)anthracene	**47**
Indeno(1,2,3-cd)pyrene	**140**

NHFLA-SL25	
Sample ID [1]	NHFLA-SL25-A-SEP2020
Depth (ft bgs)	0 - 1
PAH (µg/kg)	
Benzo(a)anthracene	**490**
Benzo(a)pyrene	**570**
Benzo(b)fluoranthene	**840**
Dibenz(a,h)anthracene	**70**
Indeno(1,2,3-cd)pyrene	**330**

NHFLA-SL29	
Sample ID [1]	NHFLA-SL29-A-SEP2020
Depth (ft bgs)	0 - 1
PAH (µg/kg)	
Benzo(a)anthracene	**740**
Benzo(a)pyrene	**680**
Benzo(b)fluoranthene	**1100**
Dibenz(a,h)anthracene	**110**
Indeno(1,2,3-cd)pyrene	**370**

Soil Screening Criteria		
Polycyclic Aromatic Hydrocarbons (µg/kg)	**Residential RSL [2]**	**Industrial RSL [2]**
Benzo(a)anthracene	1100	21000
Benzo(a)pyrene	110	2100
Benzo(b)fluoranthene	1100	21000
Dibenz(a,h)anthracene	110	2100
Indeno(1,2,3-cd)pyrene	1100	21000

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs) and "B" to designate first subsurface interval (generally 1 to 3 ft bgs).

2. Screening levels are the United States Environmental Protection Agency (USEPA) regional screening levels (RSLs) for residential or industrial soil. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

Detected concentrations are bolded.

Detected concentrations that exceed residential RSLs are bolded and shaded yellow.

Detected concentrations that exceed industrial RSLs are bolded and shaded orange.

NHFLA-SL31
NHFLA-SL11A
NHFLA-SL11B

Gov Thomas E Dewey
Southwestern Blvd
S Creek Rd
N Creek Rd
Lakeview Rd

Legend

- Reference Soil Sample
- Surface Soil Sample
- Overburden Monitoring Well with Surface and Subsurface Soil Sample
- Former Launch Area (approximate)
- Reference Area (approximate)
- Tax Parcel Boundary
- 2020 Survey Features

0 100 200 400 600 800 Feet

NOTES:
SAMPLES COLLECTED SEPTEMBER 11 TO 17, 2020.
FD - FIELD DUPLICATE SAMPLE.
ft bgs - FEET BELOW GROUND SURFACE.
PAH - POLYCYCLIC AROMATIC HYDROCARBON.
µg/kg - MICROGRAMS PER KILOGRAM.
J - ESTIMATED VALUE.
U - ANALYTE WAS NOT DETECTED AND WAS REPORTED AS LESS THAN THE LIMIT OF DETECTION (LOD).
R – DATA REJECTED.
COORDINATE SYSTEM: NEW YORK STATE PLANE WEST, NAD 1983
SURVEY: KHEOPS ARCHITECTURE, ENGINEERING & SURVEY, DECEMBER 7, 2020

FORMER NIKE BU-51/52 LAUNCH AREA

REMEDIAL INVESTIGATION

PAHS HUMAN HEALTH EXCEEDANCES IN SURFACE SOIL SAMPLES

SERES Engineering & Architecture, PLLC
ARCADIS a joint venture

FIGURE 4-7a

City: Clifton Park Div/Group: ENV Created By: Last Saved By: tdoerken
Project 30027953
\\10.19.7.200\data_ENV\Nike Project\Mxd\2021\20211217\Figure 4-7a_Soil PAH_Surface Soil.mxd 2021-12-20 10:08:45 AM

DRAFT

NHFLA-SL26	
Sample ID [1]	NHFLA-SL26-A-SEP2020
Depth (ft bgs)	0 - 1
Inorganics (mg/kg)	
Aluminum	**12900**
Arsenic	**8.4**
Chromium, Hexavalent	0.330 U
Cobalt	**2.95**
Iron	**13800**
Manganese	**460**
Selenium	**1.60 J**
Thallium	**0.520 J**
Vanadium	**22.1**

NHFLA-SL27	
Sample ID [1]	NHFLA-SL27-A-SEP2020
Depth (ft bgs)	0 - 1
Inorganics (mg/kg)	
Aluminum	**8630**
Arsenic	**7.51**
Chromium, Hexavalent	0.680 U
Cobalt	**7.04**
Iron	**15600**
Manganese	**330**
Selenium	**1.2**
Thallium	**0.660 J**
Vanadium	**20**

NHFLA-SL31		
Sample ID [1]	NHFLA-SL31-A-SEP2020	NHFLA-DUP10-SEP2020 (FD)
Depth (ft bgs)	0 - 1	0 - 1
Inorganics (mg/kg)		
Aluminum	**12400**	**14300**
Arsenic	**8.64**	**7.22**
Chromium, Hexavalent	0.340 UJ	**2.00 J**
Cobalt	**17.1 J**	**6.55 J**
Iron	**22900**	**17500**
Manganese	**1160**	**1100**
Selenium	**1.89**	**1.20 J**
Thallium	**0.400 J**	**0.330 J**
Vanadium	**36.9 J**	**21.1 J**

NHFLA-SL25	
Sample ID [1]	NHFLA-SL25-A-SEP2020
Depth (ft bgs)	0 - 1
Inorganics (mg/kg)	
Aluminum	**14800**
Arsenic	**8.51**
Chromium, Hexavalent	0.320 U
Cobalt	**7.49**
Iron	**21100**
Manganese	**601**
Selenium	**1.3**
Thallium	0.430 U
Vanadium	**25.1**

NHFLA-SL28	
Sample ID [1]	NHFLA-SL28-A-SEP2020
Depth (ft bgs)	0 - 1
Inorganics (mg/kg)	
Aluminum	**11400**
Arsenic	**8.01**
Chromium, Hexavalent	0.350 U
Cobalt	**9.03**
Iron	**15800**
Manganese	**1070**
Selenium	**1.30 J**
Thallium	**0.200 J**
Vanadium	**21.5**

NHFLA-SL11A		
Sample ID [1]	NHFLA-SL11A-A-SEP2020	NHFLA-DUP7-SEP2020 (FD)
Depth (ft bgs)	0 - 1	0 - 1
Inorganics (mg/kg)		
Aluminum	**12200**	**12600**
Arsenic	**9.16**	**8.31**
Chromium, Hexavalent	0.340 U	**0.250 J**
Cobalt	**10.6**	**9.65**
Iron	**24500**	**23300**
Manganese	**507**	**449**
Selenium	**63.9 J**	1.30 UJ
Thallium	**0.200 J**	**0.170 J**
Vanadium	**24**	**25.1**

NHFLA-SL29	
Sample ID [1]	NHFLA-SL29-A-SEP2020
Depth (ft bgs)	0 - 1
Inorganics (mg/kg)	
Aluminum	**12800**
Arsenic	**7.97 J**
Chromium, Hexavalent	0.350 U
Cobalt	**8.41**
Iron	**21800**
Manganese	**509**
Selenium	**1**
Thallium	0.440 UJ
Vanadium	**26.3**

NHFLA-SL11B	
Sample ID [1]	NHFLA-SL11B-A-SEP2020
Depth (ft bgs)	0 - 2
Inorganics (mg/kg)	
Aluminum	**15700**
Arsenic	**7.51**
Chromium, Hexavalent	0.350 U
Cobalt	**9.95**
Iron	**26600**
Manganese	**340**
Selenium	1.70 U
Thallium	0.870 U
Vanadium	**27.3**

Soil Screening Criteria		
Inorganics (mg/kg)	Residential RSL [2]	Industrial RSL [2]
Aluminum	7,700	110,000
Arsenic	0.68	3
Chromium, Hexavalent	0.3	6.3
Cobalt	2.3	35
Iron	5,500	82,000
Manganese	180	2,600
Selenium	39	580
Thallium	0.078	1.2
Vanadium	39	580

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs) and "B" to designate first subsurface interval (generally 1 to 3 ft bgs).

2. Screening levels are the United States Environmental Protection Agency (USEPA) regional screening levels (RSLs) for residential or industrial soil. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

Detected concentrations are bolded.

Detected concentrations that exceed residential RSLs are bolded and shaded yellow.

Detected concentrations that exceed industrial RSLs are bolded and shaded orange.

Service Layer Credits: NYS ITS GIS Program Office, Westchester County GIS (April 2017); Esri, HERE, Garmin, (c) OpenStreetMap contributors (June 2021)

Legend

- Reference Soil Sample
- Surface Soil Sample
- Overburden Monitoring Well with Surface and Subsurface Soil Sample
- Former Launch Area (approximate)
- Reference Area (approximate)
- Tax Parcel Boundary
- 2020 Survey Features

0 100 200 400 600 800 Feet

NOTES:
SAMPLES COLLECTED SEPTEMBER 11 TO 17, 2020.
FD - FIELD DUPLICATE SAMPLE.
ft bgs - FEET BELOW GROUND SURFACE.
mg/kg - MILLIGRAMS PER KILOGRAM.
J - ESTIMATED VALUE.
U - ANALYTE WAS NOT DETECTED AND WAS REPORTED AS LESS THAN THE LIMIT OF DETECTION (LOD).
R – DATA REJECTED.
COORDINATE SYSTEM: NEW YORK STATE PLANE WEST, NAD 1983
SURVEY: KHEOPS ARCHITECTURE, ENGINEERING & SURVEY, DECEMBER 7, 2020

FORMER NIKE BU-51/52 LAUNCH AREA
REMEDIAL INVESTIGATION

METALS HUMAN HEALTH EXCEEDANCES IN SURFACE SOIL SAMPLES

SERES Partnered & Scored NE ARCADIS a joint venture

FIGURE 4-7b

City: Clifton Park Div/Group: ENV Created By: Last Saved By: tdoerken
Project 30027953
\\10.19.7.200\data_ENV\Nike ProjectMxd\2021\20211217\Figure 4-7b_Soil Metal_Surface Soil.mxd 2021-12-20 10:12:02 AM

DRAFT

NHFLA-BH38		
Sample ID [1]	NHFLA-BH38-A-SEP2020	NHFLA-BH38-B-SEP2020
Depth (ft bgs)	0 - 1	1 - 3
Inorganics (mg/kg)		
Aluminum	**14800**	**14200**
Arsenic	**13.8**	**14.8**
Chromium, Hexavalent	R	0.350 U
Cobalt	**11.4**	**17**
Iron	**32800**	**38700**
Manganese	**201**	**611**
Thallium	1.10 U	**0.440 J**
Vanadium	**36.6**	**31.3**

NHFLA-BH39			
Sample ID [1]	NHFLA-BH39-A-SEP2020	NHFLA-BH39-B-SEP2020	NHFLA-DUP9-SEP2020 (FD)
Depth (ft bgs)	0 - 1	1 - 3	1 - 3
Inorganics (mg/kg)			
Aluminum	**18500**	**16500**	**17000**
Arsenic	**21.3 J**	**18.5**	**17.3**
Chromium, Hexavalent	0.350 U	0.370 U	0.360 U
Cobalt	**14.0 J**	**20.6**	**20.8**
Iron	**47600**	**54300**	**54100**
Manganese	**351**	**2380**	**3200**
Thallium	1.10 U	1.20 U	2.80 U
Vanadium	**42.7 J**	**31.7**	**35.1**

NHFLA-BH40			
Sample ID [1]	NHFLA-BH40-A-SEP2020	NHFLA-BH40-B-SEP2020	NHFLA-DUP8-SEP2020 (FD)
Depth (ft bgs)	0 - 1	1 - 3	1 - 3
Inorganics (mg/kg)			
Aluminum	**13600**	**13000**	**13600**
Arsenic	**11.2**	**5.77**	**5.5**
Chromium, Hexavalent	**0.250 J**	**0.320 J**	0.320 U
Cobalt	**10.3**	**9.83**	**9.8**
Iron	**36500**	**21600**	**21400**
Manganese	**586**	**370**	**376**
Thallium	1.10 U	1.00 U	1.10 U
Vanadium	**33.2**	**24.9**	**26.3**

NHFLA-BH41		
Sample ID [1]	NHFLA-BH41-A-SEP2020	NHFLA-BH41-B-SEP2020
Depth (ft bgs)	0 - 1	1 - 3
Inorganics (mg/kg)		
Aluminum	**18200**	**10000**
Arsenic	**9.31**	**9.87**
Chromium, Hexavalent	0.780 U	0.330 U
Cobalt	**6.5**	**7.98**
Iron	**24100**	**21900**
Manganese	**225**	**300**
Thallium	0.630 U	**0.420 J**
Vanadium	**46.9**	**24.6**

NHFLA-BH42		
Sample ID [1]	NHFLA-BH42-A-SEP2020	NHFLA-BH42-B-SEP2020
Depth (ft bgs)	0 - 1	1 - 3
Inorganics (mg/kg)		
Aluminum	**19400**	**12800**
Arsenic	**9.63**	**15.7**
Chromium, Hexavalent	0.410 UJ	**0.420 J**
Cobalt	**7.6**	**13**
Iron	**26300**	**33600**
Manganese	**227**	**354**
Thallium	0.570 U	**0.280 J**
Vanadium	**47.2**	**32.3**

NHFLA-BH44		
Sample ID [1]	NHFLA-BH44-A-SEP2020	NHFLA-BH44-B-SEP2020
Depth (ft bgs)	0 - 1	1 - 3
Inorganics (mg/kg)		
Aluminum	**16200**	**17800**
Arsenic	**10**	**19.3**
Chromium, Hexavalent	0.370 U	**0.180 J**
Cobalt	**7**	**7.43**
Iron	**21700**	**35500**
Manganese	**272**	**103**
Thallium	**0.820 J**	**1.10 J**
Vanadium	**34.9**	**45.6**

NHFLA-BH45		
Sample ID [1]	NHFLA-BH45-A-SEP2020	NHFLA-BH45-B-SEP2020
Depth (ft bgs)	0 - 1	1 - 3
Inorganics (mg/kg)		
Aluminum	**18100**	**8750**
Arsenic	**14.6**	**10.3**
Chromium, Hexavalent	0.390 U	0.340 U
Cobalt	**9.29**	**8.47**
Iron	**27600**	**18200**
Manganese	**360**	**228**
Thallium	**0.760 J**	**0.260 J**
Vanadium	**43.9**	**23.7**

NHFLA-BH37		
Sample ID [1]	NHFLA-BH37-A-SEP2020	NHFLA-BH37-B-SEP2020
Depth (ft bgs)	0 - 1	1 - 3
Inorganics (mg/kg)		
Aluminum	**15100**	**13000**
Arsenic	**8.95**	**12**
Chromium, Hexavalent	0.790 U	0.330 U
Cobalt	**6.91**	**8.86**
Iron	**22900**	**25200**
Manganese	**225**	**278**
Thallium	**0.140 J**	**0.260 J**
Vanadium	**37.8**	**30.7**

NHFLA-BH43		
Sample ID [1]	NHFLA-BH43-A-SEP2020	NHFLA-BH43-B-SEP2020
Depth (ft bgs)	0 - 1	1 - 3
Inorganics (mg/kg)		
Aluminum	**16600**	**14300**
Arsenic	**11.2**	**11.6**
Chromium, Hexavalent	0.400 U	0.370 U
Cobalt	**9.29**	**9.91**
Iron	**27400**	**28300**
Manganese	**507**	**388**
Thallium	0.660 U	0.610 U
Vanadium	**44.2**	**35.8**

NHFLA-BH46			
Sample ID [1]	NHFLA-BH46-A-SEP2020	NHFLA-DUP6-SEP2020 (FD)	NHFLA-BH46-B-SEP2020
Depth (ft bgs)	0 - 1	0 - 1	1 - 3
Inorganics (mg/kg)			
Aluminum	**18200**	**15900**	**14600**
Arsenic	**11.4**	**18**	**6.4**
Chromium, Hexavalent	R	**0.720 J**	**0.250 J**
Cobalt	**9.56 J**	**20.2 J**	**9.42**
Iron	**28200**	**35700**	**26300**
Manganese	**327 J**	**896 J**	**379**
Thallium	**1.32 J**	**0.460 J**	1.00 U
Vanadium	**45**	**45.4**	**26.4**

NHFLA-BH47		
Sample ID [1]	NHFLA-BH47-A-SEP2020	NHFLA-BH47-B-SEP2020
Depth (ft bgs)	0 - 1	1 - 3
Inorganics (mg/kg)		
Aluminum	**18100**	**14400**
Arsenic	**16.4**	**17.6**
Chromium, Hexavalent	0.370 U	0.330 U
Cobalt	**9.92**	**14.6**
Iron	**32900**	**33800**
Manganese	**419**	**460**
Thallium	0.620 U	**1.20 J**
Vanadium	**49.3**	**38.7**

NHFLA-BH36		
Sample ID [1]	NHFLA-BH36-A-SEP2020	NHFLA-BH36-B-SEP2020
Depth (ft bgs)	0 - 1	1 - 3
Inorganics (mg/kg)		
Aluminum	**12200**	**16400**
Arsenic	**7.29**	**7.19**
Chromium, Hexavalent	0.360 U	0.730 U
Cobalt	**7.97**	**7.79**
Iron	**21300**	**22700**
Manganese	**316**	**286**
Thallium	1.10 U	0.600 U
Vanadium	**26.6**	**41.1**

NHFLA-BH51		
Sample ID [1]	NHFLA-BH51-A-SEP2020	NHFLA-BH51-B-SEP2020
Depth (ft bgs)	0 - 1	1 - 3
Inorganics (mg/kg)		
Aluminum	**17700**	**12700**
Arsenic	**11.3**	**15.4**
Chromium, Hexavalent	0.400 U	0.370 U
Cobalt	**6.95**	**5.53**
Iron	**22300**	**27100**
Manganese	**373**	**95.6**
Thallium	**0.820 J**	**0.790 J**
Vanadium	**41.9**	**26.4**

NHFLA-BH50		
Sample ID [1]	NHFLA-BH50-A-SEP2020	NHFLA-BH50-B-SEP2020
Depth (ft bgs)	0 - 1	1 - 3
Inorganics (mg/kg)		
Aluminum	**23400**	**13700**
Arsenic	**12.7**	**9.33**
Chromium, Hexavalent	0.390 U	**0.350 J**
Cobalt	**10.9**	**14**
Iron	**26700**	**20600**
Manganese	**737**	**514**
Thallium	**1.14 J**	**0.974 J**
Vanadium	**59.9**	**33.8**

NHFLA-BH49		
Sample ID [1]	NHFLA-BH49-A-SEP2020	NHFLA-BH49-B-SEP2020
Depth (ft bgs)	0 - 1	1 - 3
Inorganics (mg/kg)		
Aluminum	**20700**	**14000**
Arsenic	**21.1**	**15.7**
Chromium, Hexavalent	0.390 U	0.370 U
Cobalt	**15.9**	**13.4**
Iron	**45600**	**35500**
Manganese	**650**	**563**
Thallium	**0.850 J**	**0.940 J**
Vanadium	**64.6**	**38.8**

NHFLA-BH48		
Sample ID [1]	NHFLA-BH48-A-SEP2020	NHFLA-BH48-B-SEP2020
Depth (ft bgs)	0 - 1	1 - 3
Inorganics (mg/kg)		
Aluminum	**12900**	**8620**
Arsenic	**14.9**	**10.8**
Chromium, Hexavalent	0.380 U	**0.230 J**
Cobalt	**17.5**	**13**
Iron	**28300**	**22900**
Manganese	**773**	**276**
Thallium	0.600 U	**0.790 J**
Vanadium	**38.2**	**22.5**

Soil Screening Criteria		
Inorganics (mg/kg)	Residential RSL [2]	Industrial RSL [2]
Aluminum	7,700	110,000
Arsenic	0.68	3
Chromium, Hexavalent	0.3	6.3
Cobalt	2.3	35
Iron	5,500	82,000
Manganese	180	2,600
Thallium	0.078	1.2
Vanadium	39	580

1. Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs) and "B" to designate first subsurface interval (generally 1 to 3 ft bgs).

2. Screening levels are the United States Environmental Protection Agency (USEPA) regional screening levels (RSLs) for residential or industrial soil. The RSLs are concentrations associated with a cancer risk of 1×10^{-6} or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

Detected concentrations are bolded.

Detected concentrations that exceed residential RSLs are bolded and shaded yellow.

Detected concentrations that exceed industrial RSLs are bolded and shaded orange.

Legend

- Reference Soil Sample
- Surface Soil Sample
- Overburden Monitoring Well with Surface and Subsurface Soil Sample
- Former Launch Area (approximate)
- Reference Area
- Tax Parcel Boundary
- 2020 Survey Features

0 100200 400 600 800 Feet

NOTES:
SAMPLES COLLECTED SEPTEMBER 9 TO 16, 2020.
FD - FIELD DUPLICATE SAMPLE.
ft bgs - FEET BELOW GROUND SURFACE.
mg/kg - MILLIGRAMS PER KILOGRAM.
J - ESTIMATED VALUE.
U - ANALYTE WAS NOT DETECTED AND WAS REPORTED AS LESS THAN THE LIMIT OF DETECTION (LOD).
R – DATA REJECTED.
COORDINATE SYSTEM: NEW YORK STATE PLANE WEST, NAD 1983
SURVEY: KHEOPS ARCHITECTURE, ENGINEERING & SURVEY, DECEMBER 7, 2020

FORMER NIKE BU-51/52 LAUNCH AREA

REMEDIAL INVESTIGATION

METALS HUMAN HEALTH EXCEEDANCES IN REFERENCE SOIL SAMPLES

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE 4-8

City: Clifton Park Div/Group: ENV Created By: Last Saved By: tdoerken
Project 30027953
\\10.19.7.200\data_ENV\Nike ProjectMxd\20211202112217\Figure 4-8_Soil Metal_Reference Area.mxd 2021-12-20 10:16:24 AM

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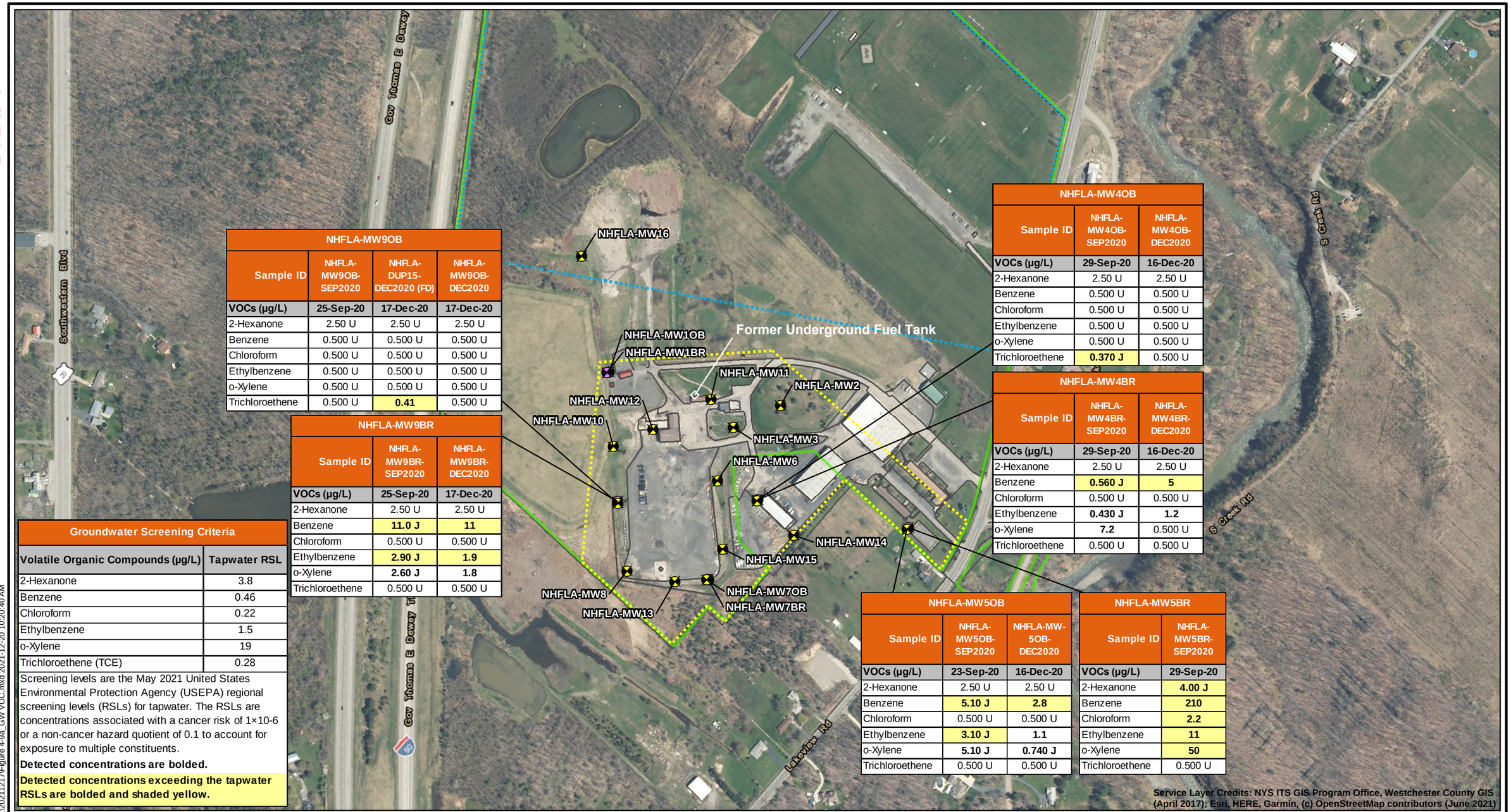

NHFLA-MW9OB			
Sample ID	NHFLA-MW9OB-SEP2020	NHFLA-DUP15-DEC2020 (FD)	NHFLA-MW9OB-DEC2020
VOCs (µg/L)	25-Sep-20	17-Dec-20	17-Dec-20
2-Hexanone	2.50 U	2.50 U	2.50 U
Benzene	0.500 U	0.500 U	0.500 U
Chloroform	0.500 U	0.500 U	0.500 U
Ethylbenzene	0.500 U	0.500 U	0.500 U
o-Xylene	0.500 U	0.500 U	0.500 U
Trichloroethene	0.500 U	**0.41**	0.500 U

NHFLA-MW9BR		
Sample ID	NHFLA-MW9BR-SEP2020	NHFLA-MW9BR-DEC2020
VOCs (µg/L)	25-Sep-20	17-Dec-20
2-Hexanone	2.50 U	2.50 U
Benzene	**11.0 J**	**11**
Chloroform	0.500 U	0.500 U
Ethylbenzene	**2.90 J**	**1.9**
o-Xylene	**2.60 J**	**1.8**
Trichloroethene	0.500 U	0.500 U

Groundwater Screening Criteria	
Volatile Organic Compounds (µg/L)	Tapwater RSL
2-Hexanone	3.8
Benzene	0.46
Chloroform	0.22
Ethylbenzene	1.5
o-Xylene	19
Trichloroethene (TCE)	0.28

Screening levels are the May 2021 United States Environmental Protection Agency (USEPA) regional screening levels (RSLs) for tapwater. The RSLs are concentrations associated with a cancer risk of 1×10-6 or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

Detected concentrations are bolded.

Detected concentrations exceeding the tapwater RSLs are bolded and shaded yellow.

NHFLA-MW4OB		
Sample ID	NHFLA-MW4OB-SEP2020	NHFLA-MW4OB-DEC2020
VOCs (µg/L)	29-Sep-20	16-Dec-20
2-Hexanone	2.50 U	2.50 U
Benzene	0.500 U	0.500 U
Chloroform	0.500 U	0.500 U
Ethylbenzene	0.500 U	0.500 U
o-Xylene	0.500 U	0.500 U
Trichloroethene	**0.370 J**	0.500 U

NHFLA-MW4BR		
Sample ID	NHFLA-MW4BR-SEP2020	NHFLA-MW4BR-DEC2020
VOCs (µg/L)	29-Sep-20	16-Dec-20
2-Hexanone	2.50 U	2.50 U
Benzene	**0.560 J**	**5**
Chloroform	0.500 U	0.500 U
Ethylbenzene	**0.430 J**	**1.2**
o-Xylene	**7.2**	0.500 U
Trichloroethene	0.500 U	0.500 U

NHFLA-MW5OB		
Sample ID	NHFLA-MW5OB-SEP2020	NHFLA-MW-5OB-DEC2020
VOCs (µg/L)	23-Sep-20	16-Dec-20
2-Hexanone	2.50 U	2.50 U
Benzene	**5.10 J**	**2.8**
Chloroform	0.500 U	0.500 U
Ethylbenzene	**3.10 J**	**1.1**
o-Xylene	**5.10 J**	**0.740 J**
Trichloroethene	0.500 U	0.500 U

NHFLA-MW5BR		
Sample ID	NHFLA-MW5BR-SEP2020	
VOCs (µg/L)	29-Sep-20	
2-Hexanone	**4.00 J**	
Benzene	**210**	
Chloroform	**2.2**	
Ethylbenzene	**11**	
o-Xylene	**50**	
Trichloroethene	0.500 U	

Service Layer Credits: NYS ITS GIS Program Office, Westchester County GIS (April 2017); Esri, HERE, Garmin, (c) OpenStreetMap contributors (June 2021)

Legend

- Overburden Monitoring Well
- Bedrock Monitoring Well
- Former Launch Area (approximate)
- Reference Area (approximate)
- Tax Parcel Boundary
- 2020 Survey Features

0 100 200 400 600 800 Feet

N E S W

NOTES:
SAMPLES COLLECTED SEPTEMBER 23 to 30 AND DECEMBER 15 TO 18, 2020.
FD - FIELD DUPLICATE SAMPLE.
VOC - VOLATILE ORGANIC COMPOUND.
µg/L - MICROGRAMS PER LITER.
J - ESTIMATED VALUE.
U - ANALYTE WAS NOT DETECTED AND WAS REPORTED AS LESS THAN THE LIMIT OF DETECTION (LOD).
R – DATA REJECTED.
COORDINATE SYSTEM: NEW YORK STATE PLANE WEST, NAD 1983
SURVEY: KHEOPS ARCHITECTURE, ENGINEERING & SURVEY, DECEMBER 7, 2020

FORMER NIKE BU-51/52 LAUNCH AREA

REMEDIAL INVESTIGATION

VOCS HUMAN HEALTH EXCEEDANCES IN GROUNDWATER

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE 4-9a

City: Clifton Park Div/Group: ENV Created By: Last Saved By: tdoerken
Project 30027953
\\10.19.7.200\data_ENV\Nike ProjectMxd\20211202112217\Figure 4-9a_GW VOC.mxd 2021-12-20 10:20:40 AM

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NHFLA-MW1OB		
Sample ID	NHFLA-MW1OB-SEP2020	NHFLA-MW-1OB-DEC2020
SVOCs (µg/L)	30-Sep-20	16-Dec-20
2-Methylnaphthalene	**0.250 J**	0.100 U
Benzo(a)anthracene	0.0930 U	0.100 U
Benzo(a)pyrene	0.0930 U	0.100 U
Bis(2-ethylhexyl)phthalate	7.00 U	7.60 U
Naphthalene	**0.33**	0.100 U

NHFLA-MW11		
Sample ID	NHFLA-MW11-SEP2020	NHFLA-MW11-DEC2020
SVOCs (µg/L)	25-Sep-20	15-Dec-20
2-Methylnaphthalene	0.0930 UJ	0.0940 U
Benzo(a)anthracene	0.0930 UJ	**0.0440 J**
Benzo(a)pyrene	0.0930 UJ	0.0940 U
Bis(2-ethylhexyl)phthalate	7.00 U	7.10 U
Naphthalene	0.0930 UJ	0.0940 U

NHFLA-MW4OB		
Sample ID	NHFLA-MW4OB-SEP2020	NHFLA-MW4OB-DEC2020
SVOCs (µg/L)	29-Sep-20	16-Dec-20
2-Methylnaphthalene	**0.200 J**	0.100 U
Benzo(a)anthracene	0.0960 U	0.100 U
Benzo(a)pyrene	0.0960 U	0.100 U
Bis(2-ethylhexyl)phthalate	7.20 U	**28**
Naphthalene	0.0960 U	0.100 U

NHFLA-MW9BR			
Sample ID	NHFLA-MW9BR-SEP2020	NHFLA-MW9BR-DEC2020	NHFLA-MW10-DEC2020
SVOCs (µg/L)	25-Sep-20	17-Dec-20	15-Dec-20
2-Methylnaphthalene	**0.210**	**0.28**	0.0940 U
Benzo(a)anthracene	0.0980 U	0.100 U	0.0940 U
Benzo(a)pyrene	0.0980 U	0.100 U	0.0940 U
Bis(2-ethylhexyl)phthalate	**1.90 J**	7.90 U	7.10 U
Naphthalene	0.0980 U	**0.24**	0.0940 U

NHFLA-MW4BR		
Sample ID	NHFLA-MW4BR-SEP2020	NHFLA-MW4BR-DEC2020
SVOCs (µg/L)	29-Sep-20	16-Dec-20
2-Methylnaphthalene	0.110 UJ	0.100 U
Benzo(a)anthracene	0.110 UJ	**0.0870 J**
Benzo(a)pyrene	0.110 UJ	**0.0820 J**
Bis(2-ethylhexyl)phthalate	8.40 UJ	**2.30 J**
Naphthalene	0.110 UJ	0.100 U

NHFLA-MW5BR	
Sample ID	NHFLA-MW5BR-SEP2020
SVOCs (µg/L)	29-Sep-20
2-Methylnaphthalene	**14**
Benzo(a)anthracene	**0.150 J**
Benzo(a)pyrene	**0.0730 J**
Bis(2-ethylhexyl)phthalate	**3.40 J**
Naphthalene	**4.30 J**

Groundwater Screening Criteria	
Semi-Volatile Organic Compounds (µg/L)	Tapwater RSL
2-Methylnaphthalene	3.6
Benzo(a)anthracene	0.03
Benzo(a)pyrene	0.025
Bis(2-ethylhexyl)phthalate	5.6
Naphthalene	0.12

Screening levels are the May 2021 United States Environmental Protection Agency (USEPA) regional screening levels (RSLs) for tapwater. The RSLs are concentrations associated with a cancer risk of 1×10-6 or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.

Detected concentrations are bolded.

Detected concentrations exceeding the tapwater RSLs are bolded and shaded yellow.

NHFLA-MW16
NHFLA-MW1BR
NHFLA-MW2
NHFLA-MW12
NHFLA-MW10
NHFLA-MW3
NHFLA-MW6
NHFLA-MW9OB
NHFLA-MW14
NHFLA-MW5OB
NHFLA-MW15
NHFLA-MW8
NHFLA-MW13
NHFLA-MW7OB
NHFLA-MW7BR

Gov Thomas E Dewey Thruway
Southwestern Blvd
S Creek Rd
Lakeview Rd

Service Layer Credits: NYS ITS GIS Program Office, Westchester County GIS (April 2017); Esri, HERE, Garmin, (c) OpenStreetMap contributors (June 2021)

Legend

- Overburden Monitoring Well
- Bedrock Monitoring Well
- Former Launch Area
- Reference Area
- Tax Parcel Boundary
- 2020 Survey Features

0 100 200 400 600 800 Feet

N E S W

NOTES:
SAMPLES COLLECTED SEPTEMBER 23 to 30 AND DECEMBER 15 TO 18, 2020.
FD - FIELD DUPLICATE SAMPLE.
SVOC - SEMI-VOLATILE ORGANIC COMPOUND.
µg/L - MICROGRAMS PER LITER.
J - ESTIMATED VALUE.
U - ANALYTE WAS NOT DETECTED AND WAS REPORTED AS LESS THAN THE LIMIT OF DETECTION (LOD).
R – DATA REJECTED.
COORDINATE SYSTEM: NEW YORK STATE PLANE WEST, NAD 1983
SURVEY: KHEOPS ARCHITECTURE, ENGINEERING & SURVEY, DECEMBER 7, 2020

FORMER NIKE BU-51/52 LAUNCH AREA

REMEDIAL INVESTIGATION

SVOCS HUMAN HEALTH EXCEEDANCES IN GROUNDWATER

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE 4-9b

City: Clifton Park Div/Group: ENV Created By: Last Saved By: tdoerfken
Project 30027953
\\10.19.7.200\data_ENV\Nike Project\Mxd\2021\20211217\Figure 4-9b_GW SVOC.mxd 2021-12-20 10:22:17 AM

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NHFLA-MW10		
Sample ID	NHFLA-MW10-SEP2020	NHFLA-MW10-DEC2020
Inorganics (µg/L)	24-Sep-20	15-Dec-20
Cobalt	**0.150 J**	**3.52**
Cobalt (d)	**0.140 J**	**3.58**
Iron	**6320**	**9560**
Iron (d)	**2900**	**5750**
Manganese	**1080**	**1090**
Manganese (d)	**1050**	**1080**
Thallium	0.400 U	**0.0630 J**

NHFLA-MW12		
Sample ID	NHFLA-MW12-SEP2020	NHFLA-MW12-DEC2020
Inorganics (µg/L)	24-Sep-20	15-Dec-20
Aluminum	**3640**	**121**
Arsenic	**3.80 J**	4.00 U
Cobalt	**3.18**	**0.430 J**
Cobalt (d)	**1.28**	**0.360 J**
Iron	**7970**	**185**
Manganese	**405**	**5.89**
Manganese (d)	**375**	**4.89**
Thallium	**0.907 J**	**0.230 J**
Thallium (d)	**0.430 J**	**0.200 J**
Vanadium	**11.5**	**0.630 J**

NHFLA-MW16 (upgradient)		
Sample ID	NHFLA-MW16-SEP2020	NHFLA-MW16-DEC2020
Inorganics (µg/L)	24-Sep-20	15-Dec-20
Arsenic	**9.9**	**18**
Arsenic (d)	**4.30 J**	**17**
Barium	**626**	**676**
Barium (d)	**415**	**691**
Cobalt	**19.1**	**10.7**
Cobalt (d)	**17.7**	**10.3**
Iron	**14600**	**43600**
Iron (d)	**391**	**43900**
Manganese	**4670**	**5620**
Manganese (d)	**4470**	**5760**
Nickel	**42.5**	**15.6**
Nickel (d)	**39.5**	**15.7**
Thallium	**0.824 J**	0.400 U
Thallium (d)	**0.700 J**	0.400 U
Vanadium	**6.93**	**13.2**
Vanadium (d)	**2.60 J**	**10.8**

NHFLA-MW1OB		
Sample ID	NHFLA-MW1OB-SEP2020	NHFLA-MW-1OB-DEC2020
Inorganics (µg/L)	30-Sep-20	16-Dec-20
Barium	**551**	**815**
Barium, Dissolved	**496**	**783**
Iron	**39700**	**33300**
Iron, Dissolved	**32900**	**33600**
Manganese	**1390**	**924**
Manganese, Dissolved	**1380**	**914**
Thallium	**0.140 J**	0.400 U
Thallium, Dissolved	0.400 U	0.400 U

NHFLA-MW11		
Sample ID	NHFLA-MW11-SEP2020	NHFLA-MW11-DEC2020
Inorganics (µg/L)	25-Sep-20	15-Dec-20
Arsenic	**2.40 J**	**2.80 J**
Arsenic (d)	4.00 U	**3.90 J**
Cobalt	**1.85**	**13.9**
Cobalt (d)	**0.520 J**	**15.7**
Iron	**22700**	**20100**
Iron (d)	**19200**	**24000**
Manganese	**1540**	**1710**
Manganese (d)	**1550**	**1810**
Nickel	**9.05**	**41.1**
Nickel (d)	**3.32**	**46.6**
Thallium	0.400 U	**0.340 J**
Thallium (d)	0.400 U	**0.470 J**

NHFLA-MW3		
Sample ID	NHFLA-MW3-SEP2020	NHFLA-MW3-DEC2020
Inorganics (µg/L)	24-Sep-20	15-Dec-20
Cobalt	**2.07**	**16.3**
Cobalt (d)	**1.6**	**17.7**
Iron	**28400**	**16100**
Iron (d)	**26000**	**16500**
Manganese	**5440**	**3940**
Manganese (d)	**5120**	**4120**
Nickel	**12**	**58**
Nickel (d)	**9.82**	**63**
Thallium	**0.130 J**	**1.33**
Thallium (d)	**0.0650 J**	**1.42**

NHFLA-MW2			
Sample ID	NHFLA-DUP11-SEP2020 (FD)	NHFLA-MW2-SEP2020	NHFLA-MW2-DEC2020
Inorganics (µg/L)	23-Sep-20	23-Sep-20	15-Dec-20
Cobalt	1.00 U	1.00 U	**3.73**
Cobalt (d)	1.00 U	1.00 U	**3.76**
Iron	**11400**	**8860**	**632**
Iron (d)	**7820**	**7890**	**677**
Manganese	**2630**	**2180**	**160**
Manganese (d)	**2070**	**2080**	**165**
Thallium	0.400 U	0.400 U	**0.140 J**
Thallium (d)	0.400 U	**0.300 J**	**0.140 J**

NHFLA-MW9BR		
Sample ID	NHFLA-MW9BR-SEP2020	NHFLA-MW9BR-DEC2020
Inorganics (µg/L)	25-Sep-20	17-Dec-20
Antimony	**1.46**	**0.786 J**
Antimony (d)	**1.18**	**0.790 J**
Chromium, Hex (d)	R	**0.950 J**
Iron	**2480**	**307**
Manganese	**404**	**53.7**
Manganese (d)	**352**	**51**
Thallium (d)	0.400 U	**0.0620 J**

NHFLA-MW1BR		
Sample ID	NHFLA-MW1BR-SEP2020	NHFLA-MW-1BR-DEC2020
Inorganics (µg/L)	30-Sep-20	16-Dec-20
Barium	**1210**	**1090**
Barium (d)	**1180**	**1080**
Manganese	**1180**	**998**
Manganese (d)	**1150**	**962**

NHFLA-MW4OB		
Sample ID	NHFLA-MW4OB-SEP2020	NHFLA-MW4OB-DEC2020
Inorganics (µg/L)	29-Sep-20	16-Dec-20
Cobalt	**2.13**	**0.110 J**
Cobalt (d)	**1.45**	**0.0970 J**
Iron	**7550**	**4530**
Iron (d)	**3050**	**3830**
Manganese	**976**	**564**
Manganese (d)	**876**	**551**

NHFLA-MW4BR		
Sample ID	NHFLA-MW4BR-SEP2020	NHFLA-MW4BR-DEC2020
Inorganics (µg/L)	29-Sep-20	16-Dec-20
Aluminum	**6260**	100 U
Antimony	**5.75**	**3.29**
Antimony (d)	**5.59**	**3.28**
Arsenic	**6**	4.00 U
Barium	**395**	**273**
Cobalt	**5.1**	**2.11**
Cobalt (d)	**1.01**	**2.1**
Iron	**9420**	**385**
Manganese	**428**	**466**
Manganese (d)	**370**	**474**
Thallium	**1.42**	**0.400 J**
Thallium (d)	1.00 U	**0.410 J**
Vanadium	**24.1**	**1.60 J**

NHFLA-MW9OB			
Sample ID	NHFLA-MW9OB-SEP2020	NHFLA-DUP15-DEC2020 (FD)	NHFLA-MW9OB-DEC2020
Inorganics (µg/L)	25-Sep-20	17-Dec-20	17-Dec-20
Chromium, Hex (d)	R	**2.70 J**	**1.90 J**
Cobalt	**2.22**	**1.94**	**1.62**
Cobalt (d)	**2.22**	**1.51**	**1.54**
Manganese	**770**	**820**	**789**
Manganese (d)	**728**	**745**	**774**
Thallium	0.400 U	**0.130 J**	**0.150 J**
Thallium (d)	0.400 U	**0.150 J**	**0.140 J**

NHFLA-MW6		
Sample ID	NHFLA-MW6-SEP2020	NHFLA-MW6-DEC2020
Inorganics (µg/L)	24-Sep-20	18-Dec-20
Cobalt	**1.32**	**1.24**
Cobalt (d)	**0.240 J**	**0.935 J**
Iron	**12000**	**7820**
Iron (d)	**6120**	**6660**
Manganese	**940**	**372**
Manganese (d)	**903**	**364**
Thallium	**0.280 J**	**0.190 J**
Thallium (d)	**0.0610 J**	**0.160 J**

NHFLA-MW5OB		
Sample ID	NHFLA-MW5OB-SEP2020	NHFLA-MW-5OB-DEC2020
Inorganics (µg/L)	23-Sep-20	16-Dec-20
Barium	**1240**	**1280**
Barium (d)	**1280**	**1050**
Chromium, Hex (d)	**2.30 J**	12.5 UJ
Manganese	**422**	**371**
Manganese (d)	**404**	**281**
Thallium	0.400 U	**0.150 J**
Thallium (d)	**0.110 J**	0.400 U

NHFLA-MW5BR	
Sample ID	NHFLA-MW5BR-SEP2020
Inorganics (µg/L)	29-Sep-20
Antimony	**8.96**
Antimony (d)	**7.74**
Arsenic	**3.00 J**
Cobalt	**1.36**
Iron	**1740**
Manganese	**126**
Manganese (d)	**118**

Groundwater Screening Criteria	
Inorganics (µg/L)	Tapwater RSL
Aluminum	2000
Antimony	0.78
Arsenic	0.052
Barium	380
Chromium, Hexavalent	0.035
Cobalt	0.6
Iron	1400
Manganese	43
Nickel	39
Thallium	0.02
Vanadium	8.6
Screening levels are the May 2021 United States Environmental Protection Agency (USEPA) regional screening levels (RSLs) for tapwater. The RSLs are concentrations associated with a cancer risk of 1×10-6 or a non-cancer hazard quotient of 0.1 to account for exposure to multiple constituents.	
Detected concentrations are bolded.	
Detected concentrations exceeding the tapwater RSLs are bolded and shaded yellow.	

NHFLA-MW8		
Sample ID	NHFLA-MW8-SEP2020	NHFLA-MW8-DEC2020
Inorganics (µg/L)	25-Sep-20	17-Dec-20
Arsenic	**2.50 J**	4.00 U
Chromium, Hex (d)	R	**3.30 J**
Iron	**2700**	**2010**
Iron (d)	**2470**	**1810**
Manganese	**150**	**107**
Manganese (d)	**146**	**107**

NHFLA-MW13		
Sample ID	NHFLA-MW13-SEP2020	NHFLA-MW13-DEC2020
Inorganics (µg/L)	24-Sep-20	18-Dec-20
Iron	**3010**	**1260**
Manganese	**368**	**124**
Manganese (d)	**354**	**127**
Thallium	**0.0640 J**	0.400 U

NHFLA-MW7OB			
Sample ID	NHFLA-MW7OB-SEP2020	NHFLA-DUP14-DEC2020 (FD)	NHFLA-MW7OB-DEC2020
Inorganics (µg/L)	29-Sep-20	17-Dec-20	17-Dec-20
Chromium, Hex (d)	12.5 UJ	**1.70 J**	**1.20 J**
Thallium	0.400 U	0.400 U	**0.0760 J**

NHFLA-MW7BR			
Sample ID	NHFLA-DUP13-SEP2020 (FD)	NHFLA-MW7BR-SEP2020	NHFLA-MW7BR-DEC2020
Inorganics (µg/L)	30-Sep-20	30-Sep-20	17-Dec-20
Chromium, Hex (d)	12.5 UJ	12.5 UJ	**1.00 J**
Thallium	0.400 U	**0.100 J**	0.400 U

NHFLA-MW15		
Sample ID	NHFLA-MW15-SEP2020	NHFLA-MW15-DEC2020
Inorganics (µg/L)	25-Sep-20	17-Dec-20
Thallium	0.400 U	**0.0840 J**
Thallium (d)	0.400 U	**0.0780 J**

NHFLA-MW14			
Sample ID	NHFLA-DUP12-SEP2020 (FD)	NHFLA-MW14-SEP2020	NHFLA-MW14-DEC2020
Inorganics (µg/L)	24-Sep-20	24-Sep-20	16-Dec-20
Iron	**3040**	**3040**	**1330**
Manganese	**1890**	**1930**	**503**
Manganese (d)	**1930**	**1920**	**522**
Thallium	**0.130 J**	**0.130 J**	**0.150 J**
Thallium (d)	0.400 U	0.400 U	**0.150 J**

Service Layer Credits: NYS ITS GIS Program Office, Westchester County GIS (April 2017); Esri, HERE, Garmin, (c) OpenStreetMap contributors (June 2021)

Legend

- Overburden Monitoring Well
- Bedrock Monitoring Well
- Former Launch Area (approximate)
- Reference Area (approximate)
- Tax Parcel Boundary
- 2020 Survey Features

0 100 200 400 600 800 Feet

N E W S

NOTES:
SAMPLES COLLECTED SEPTEMBER 23 to 30 AND DECEMBER 15 TO 18, 2020.
(d) - DISSOLVED.
FD - FIELD DUPLICATE SAMPLE.
µg/L - MICROGRAMS PER LITER.
J - ESTIMATED VALUE.
U - ANALYTE WAS NOT DETECTED AND WAS REPORTED AS LESS THAN THE LIMIT OF DETECTION (LOD).
R – DATA REJECTED.
COORDINATE SYSTEM: NEW YORK STATE PLANE WEST, NAD 1983
SURVEY: KHEOPS ARCHITECTURE, ENGINEERING & SURVEY, DECEMBER 7, 2020

FORMER NIKE BU-51/52 LAUNCH AREA
REMEDIAL INVESTIGATION

METALS HUMAN HEALTH EXCEEDANCES IN GROUNDWATER

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE 4-9c

City: Clifton Park Div/Group: ENV Created By: Last Saved By: tdoerken
Project 30027953
\\10.19.7.200\data_ENV\Nike ProjectMxd\2021\20211217\Figure 4-9c_GW Metal.mxd 2021-12-20 10:24:30 AM

Figure 6-2a: Nike BU 51/52 - Screening Level Ecological Risk Assessment Flow Chart

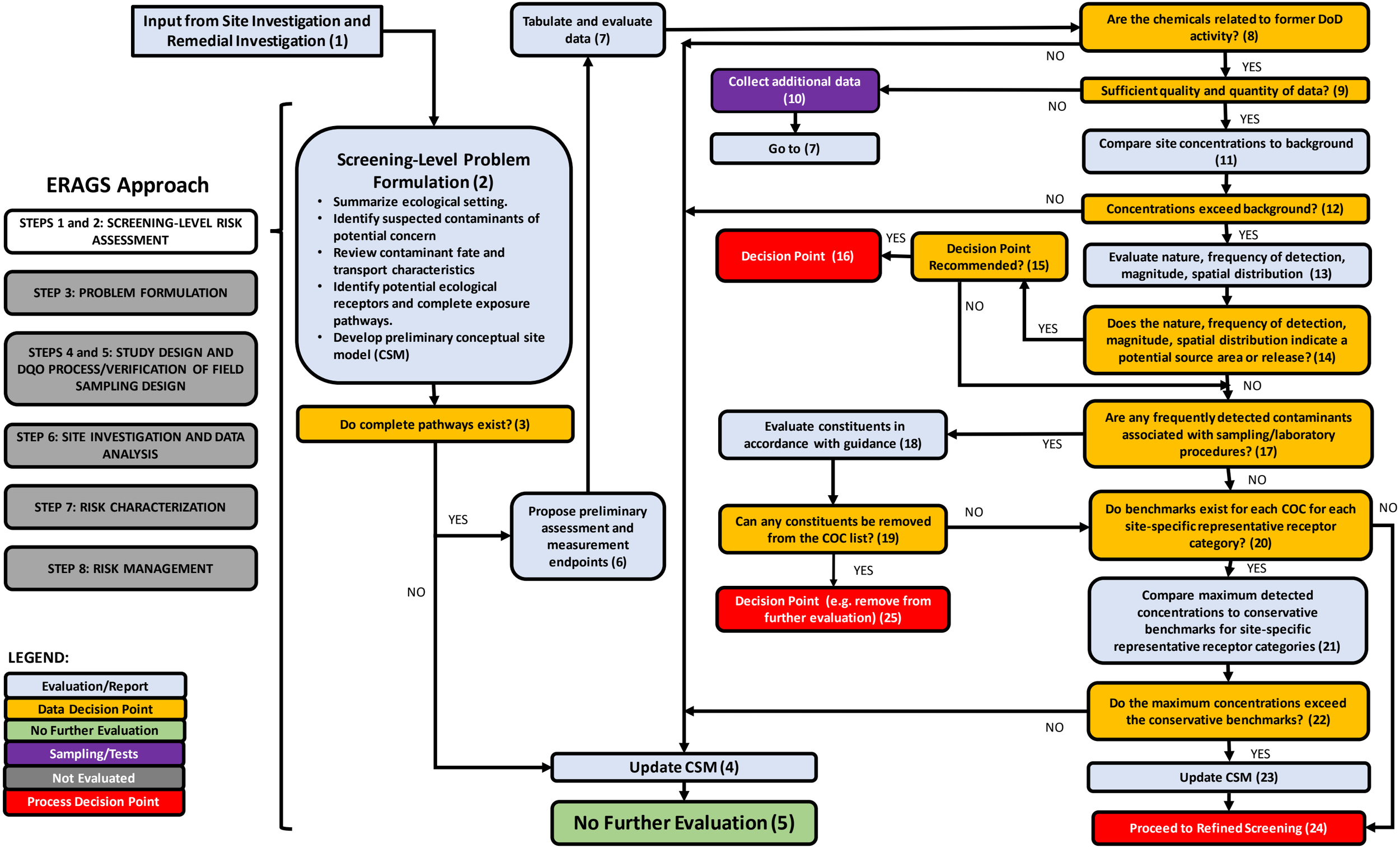
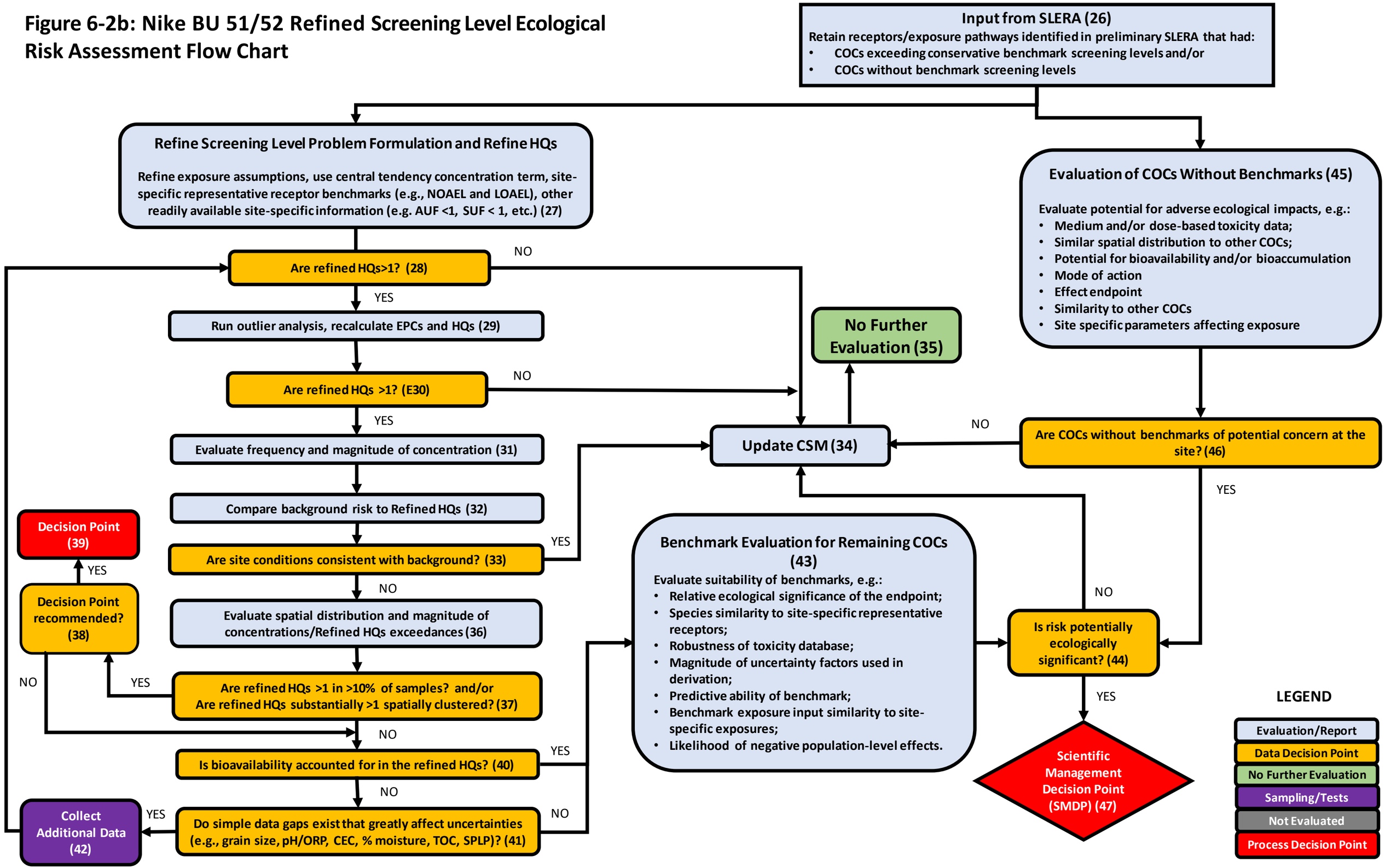


Figure 6-2b: Nike BU 51/52 Refined Screening Level Ecological Risk Assessment Flow Chart



Legend

- Potential Wetland Species
- Residential/Commercial/Industrial
- Successional Southern Hardwood Forest
- Successional Old Field
- Artificial Pond
- Artificial Intermittent Stream/Ditch (approx.)
- Current Site Features
- Former Nike Launch Area
- Landfill

Coordinate System: NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Sources: Battelle, 2000; GZA, 1999

0 150 300 600 Feet

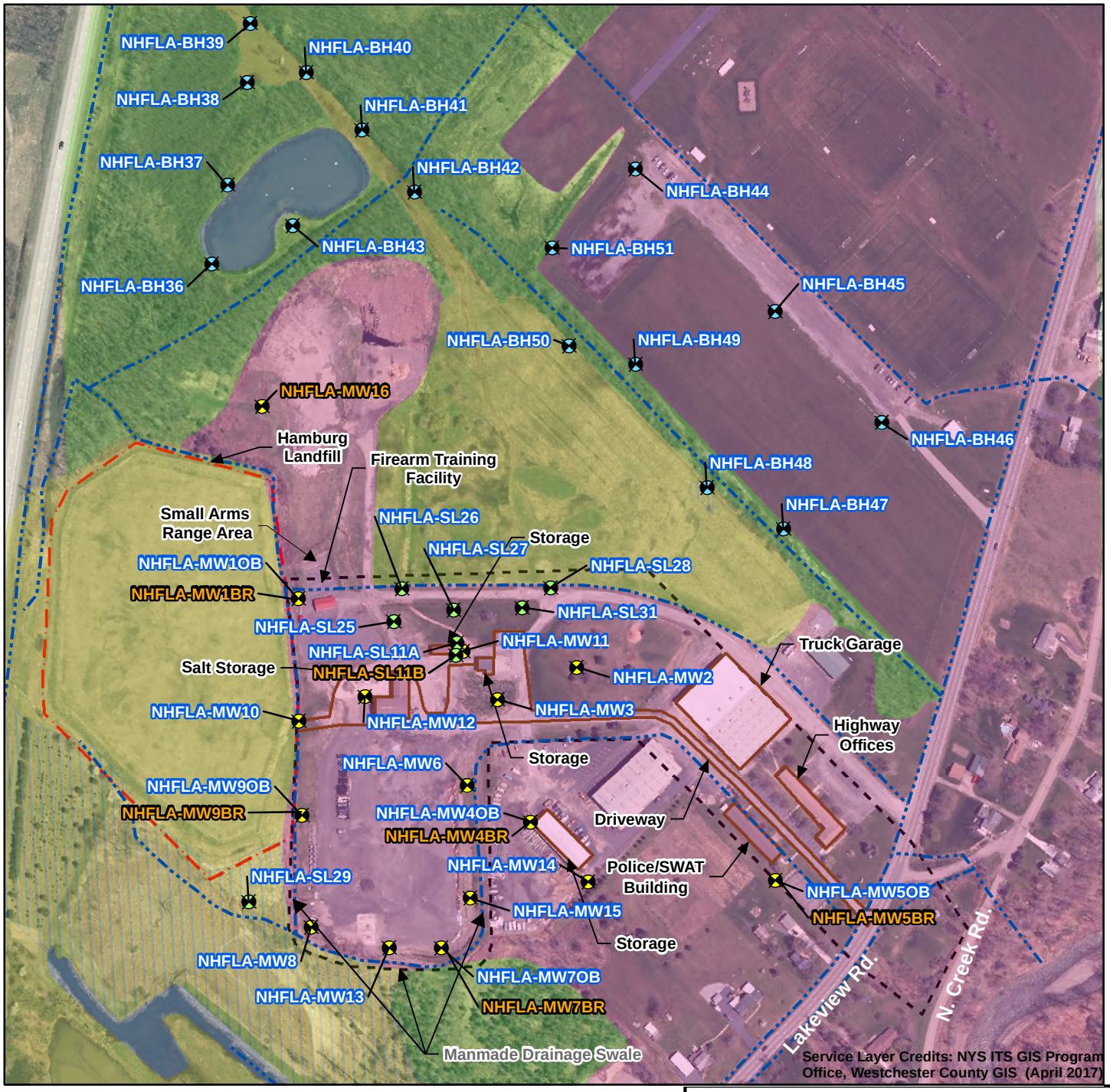
FORMER NIKE BU-51/52 LAUNCH AREA REMEDIAL INVESTIGATION

HABITAT COVER TYPE MAP

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE 6-3

Document Path: \\10.19.7.200\data_ENV\Nike Project\Mxd\2021\20211217\Figure 6-3_Habit Cover Type map.mxd



Legend

- Reference Soil Sample
- Surface Soil Sample
- Overburden Monitoring Well with Surface and Subsurface Soil Sample
- Artificial Intermittent Stream/Ditch (approx.)
- Potential Wetland Species
- Residential/Commercial/Industrial
- Successional Southern Hardwood Forest
- Successional Old Field
- Artificial Pond
- Current Site Features
- Former Nike Launch Area
- Landfill
- MW1 Included in SLERA
- MW1 Excluded from SLERA

Coordinate System: NAD 1983 UTM Zone 18N
Projection: Transverse Mercator
Sources: Battelle, 2000; GZA, 1999

0 150 300 600 Feet

FORMER NIKE BU-51/52 LAUNCH AREA REMEDIAL INVESTIGATION

IDENTIFICATION OF SLERA SOIL DATA

SERES Engineering & Services, LLC
ARCADIS a joint venture

FIGURE 6-4

Document Path: \\10.19.7.200\data_ENV\Nike Project\Mxd\2021\20211217\Figure 6-4_Identification of SLERA Soil Data.mxd

Appendix A

Habitat Assessment Photographs

Project Photographs

Nike Antiaircraft Missile Battery BU – 51/52
Town of Hamburg, New York

Photo: 1

Description: Gravel-covered laydown yard in the central portion of the site.

Photo: 2

Description: Gravel-covered laydown yard in the central portion of the site.

Project Photographs

Nike Antiaircraft Missile Battery BU – 51/52
Town of Hamburg, New York

Photo: 3

Description: Intermittent drainage ditch running between gravel laydown yard and Hamburg Highway Department buildings.

Photo: 4

Description: Intermittent drainage ditch running along eastern boundary of the site.

Project Photographs

Nike Antiaircraft Missile Battery BU – 51/52
Town of Hamburg, New York

Photo: 5

Description: Intermittent drainage ditch along northern boundary of the site and the Hamburg Landfill.

Photo: 6

Description: Hamburg Highway Department dump north of the site.

Appendix B

Daily Field Reports

NIKE BU 51/52 HAMBURG, NY DAILY SUMMARY - 7/29/2020

Clubine, Katherine <Katherine.Clubine@arcadis.com>

Thu 7/30/2020 8:00 AM

To: Kirby, Erin M CIV (US) <Erin.Kirby@usace.army.mil>
Cc: Vitolins, Andy <Andy.Vitolins@arcadis.com>; Nathan Mullens <nrmullens@seres-es.com>
Bcc: Brayer, Jeff <Jeff.Brayer@arcadis.com>; Clubine, Katherine <Katherine.Clubine@arcadis.com>

NIKE BU 51/52 HAMBURG, NY DAILY SUMMARY

DATE: Wednesday 7/29/2020

ONSITE RESOURCES

- JV - Jeff Brayer (Arcadis)
- New York Leak Detection – Nick Stari

WORK COMPLETED

- Checked in with Hamburg Range Master, Highway Department and provided status update to Rick Nowak of Buildings and Grounds Department
- Completed H&S tailgate meeting
- NYLD marked out utilities near pond and athletic fields for the background sampling locations.
- All proposed sampling locations have utilities marked out within a 15 foot radius of each location.

PLANNED ACTIVITIES

- Figures will be updated with field verified drainage pathway and sampling locations.
- JV and Nothnagle drilling will be onsite August 10, 2020 to begin monitoring well installation and collection of soil samples.

Please let us know if you have any comments or require any additional information.

Kate Clubine | Environmental Scientist | Katherine.Clubine@arcadis.com
Arcadis | Arcadis of New York, Inc.
50 Fountain Plaza, Suite 600 Buffalo NY | 14202 | USA
T. +1 716-667-6637 | M. + 1 248-946-1141

NIKE BU 51/52 HAMBURG, NY DAILY SUMMARY - 7/28/2020

Clubine, Katherine <Katherine.Clubine@arcadis.com>

Wed 7/29/2020 10:40 AM

To: Kirby, Erin M CIV USARMY CENAE (USA) <Erin.Kirby@usace.army.mil>
Cc: Nathan Mullens <nrmullens@seres-es.com>; Vitolins, Andy <Andy.Vitolins@arcadis.com>
Bcc: Brayer, Jeff <Jeff.Brayer@arcadis.com>; Clubine, Katherine <Katherine.Clubine@arcadis.com>

NIKE BU 51/52 HAMBURG, NY DAILY SUMMARY

DATE: Tuesday 7/28/2020

ONSITE RESOURCES

- JV - Jeff Brayer (Arcadis)
- New York Leak Detection – Nick Stari

WORK COMPLETED

- Checked in with Hamburg Range Master, Highway Department and provided status update to Rick Nowak of Buildings and Grounds Department
- Completed H&S tailgate meeting
- JV staked and flagged background sample locations near pond and athletic fields
- NYLD marked out utilities near the transporter pad, north of gun range, missile assembly and testing building, and all other locations within the former Nike Launch Area.

WORK PLANNED FOR 7/29/2020

- NYLD will continue marking utilities for background locations near athletic fields and pond area

Please let us know if you have any comments or require any additional information.

Kate Clubine | Environmental Scientist | Katherine.Clubine@arcadis.com
Arcadis | Arcadis of New York, Inc.
50 Fountain Plaza, Suite 600 Buffalo NY | 14202 | USA
T. +1 716 667 6637 | M. + 1 248-946-1141

NIKE BU 51/52 HAMBURG, NY DAILY SUMMARY - 7/29/2020

Clubine, Katherine <Katherine.Clubine@arcadis.com>

Thu 7/30/2020 8:00 AM

To: Kirby, Erin M CIV (US) <Erin.Kirby@usace.army.mil>
Cc: Vitolins, Andy <Andy.Vitolins@arcadis.com>; Nathan Mullens <nrmullens@seres-es.com>
Bcc: Brayer, Jeff <Jeff.Brayer@arcadis.com>; Clubine, Katherine <Katherine.Clubine@arcadis.com>

NIKE BU 51/52 HAMBURG, NY DAILY SUMMARY

DATE: Wednesday 7/29/2020

ONSITE RESOURCES

- JV - Jeff Brayer (Arcadis)
- New York Leak Detection – Nick Stari

WORK COMPLETED

- Checked in with Hamburg Range Master, Highway Department and provided status update to Rick Nowak of Buildings and Grounds Department
- Completed H&S tailgate meeting
- NYLD marked out utilities near pond and athletic fields for the background sampling locations.
- All proposed sampling locations have utilities marked out within a 15 foot radius of each location.

PLANNED ACTIVITIES

- Figures will be updated with field verified drainage pathway and sampling locations.
- JV and Nothnagle drilling will be onsite August 10, 2020 to begin monitoring well installation and collection of soil samples.

Please let us know if you have any comments or require any additional information.

Kate Clubine | Environmental Scientist | Katherine.Clubine@arcadis.com
Arcadis | Arcadis of New York, Inc.
50 Fountain Plaza, Suite 600 Buffalo NY | 14202 | USA
T. +1 716-667-6637 | M. + 1 248-946-1141

MEMORANDUM

To:
Erin Kirby, USACE - New England

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Date:
August 3, 2020

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY - Field Investigation Summary (July 27, 2020 – July 31, 2020)

---

1. Onsite Personnel

- Onsite July 27, 2020 – July 29, 2020
    - JV - Jeff Brayer (Arcadis) and New York Leak Detection – Nick Stari
- Offsite July 30, 2020 – July 31, 2020

2. Completed Activities

- All sampling locations were staked. New York Leak Detection marked out utilities within a 15 foot radius of proposed sampling locations.
- Utility clearance lines of evidence include ground penetrating radar, tracing, site walk with Rick Nowak of Buildings and Grounds to discuss Town knowledge of utilities, reconnaissance and visual inspection of overhead utilities and surface utility infrastructure, and 811 Dig Safely New York. In areas of congested utilities, Nothnagle Drilling, Inc. will also hand clear.

3. Items Discussed

- JV will refresh utility mark outs weekly as needed in high traffic areas.
- An employee of the Town Highway Department indicated that although the missile silos were filled with asphalt millings, underground areas may not have been backfilled. Void spaces may be encountered during drilling. If encountered, drill locations may be adjusted, as necessary.
- Installation of the monitoring well and sample collection at location 17 has been postponed until additional information regarding Town use of the wastewater treatment plant (WWTP) has been obtained. Reconnaissance during utility mark-out observed a leach field with active sanitary infrastructure in the vicinity of location 17. The 2019 Bluestone Remedial Investigation Work Plan indicates that "The former Sewage Treatment Plant was used by DoD. According to an internal USACE memo dated 27 March 2000, the Town of Hamburg never used this facility. Information regarding the abandonment or demolition of the Sewage Treatment Facility was not found among the historical documents." However, the Buildings and Grounds Department confirmed that some of the Town buildings connect to this system, and that the Buildings and Grounds Department managed the system through circa 2016, at which time the Highway Department began managing the system. Management includes pumping of solids from the 20,000-30,000 gallon tank and onsite treatment of leachate with chlorine prior to discharge to 18 Mile Creek.

4. Health and Safety

- Checked in with Hamburg Highway Department and Buildings and Grounds Department daily.
- Completed H&S tailgate meetings daily prior to onsite activities.
- Met with Jason Koelle – NFTA Police – Range Master
  - Discussed gun range use and access to points behind and next to the range.
  - Range will be in use for target practice every day for the next three weeks, but when not in use, the red flag will be lowered signifying that the range is clear for access.

5. Planned Activities

- JV will reach out to the Town for additional information regarding when the Town began use of the WWTP. JV will discuss any additional findings with USACE to confirm that location 17 should be removed from the scope of work.
- JV will generate a sample tracking spreadsheet to be included with future weekly summaries.
- Drilling and sample collection is scheduled to begin on August 10, 2020.

MEMORANDUM

To:
Erin Kirby, USACE - New England

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Date:
August 11, 2020

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY - Field Investigation Summary (August 3, 2020 – August 7, 2020)

---

1. Onsite Personnel

- None

2. Completed Activities

- Onsite activities were not completed this week.

3. Items Discussed

- JV confirmed with the Buildings and Grounds Department that the Town has used the WWTP since taking ownership of the property from DOD. Sample location 17 is removed from the scope of work.

4. Health and Safety

- Accident Prevention Plan was finalized.

5. Planned Activities

- Nothnagle and JV mobilize to site on August 10, 2020. Drilling begins August 11, 2020.

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (8/11/2020)

ONSITE DATE Tuesday 8/11/2020

ONSITE RESOURCES

- 7:30 – 15:30 Nothnagle – Avery Wall and Steve Loranty
- 7:30 – 18:15 JV – Jeff Brayer (Arcadis) and Michael Cliggett (SERES)
- 15:00 – 18:15 JV – Kate Clubine (Arcadis)

COMPLETED ACTIVITIES

- Checked in with Town of Hamburg Buildings and Grounds Department (Pat Ryan and Rick Nowak)
- Completed H&S tailgate meeting prior to onsite activities. See attached form.
- Installed bedrock monitoring well MW9BR. Photographs below.
    - Visual, PID, or olfactory impacts were not observed.
    - Containerized soil cuttings and labeled drum.

MW9BR (Bedrock Well)	
Top of fractured bedrock	10’ bgs
Top of competent bedrock (shale)	14’ bgs
Water level	3.3’ bgs
First water bearing zone	14-15’ bgs
Second water bearing zone	20-24’ bgs
2” 10 slot screen (8’ of screen)	16-24’ bgs
Sand	14’-16’ bgs
Bentonite Seal	12-14’ bgs
Grout	2-12’ bgs

PLANNED ACTIVITIES FOR 8/12/2020

- Drilling will begin on MW7BR (bedrock well).

PHOTOGRAPHS

Filter pack sand being placed around the screen.

Bentonite pellet seal being placed above the filter pack sand.

Rig setting up to install MW9BR

MW9BR stick-up

ARCADIS

Document Control Number: TGM - _____

TGM + *project number plus date as follows: xxxxxxxx.xxxx.xxxxx - dd/mm/year*

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: JV Hanbury Nike Base Launch Area		**Project Location:** Hanbury Highway	
Date: 8-11-20	**Time:** 7:30	**Conducted by:** J. Brewer	**Signature/Title:**
Client: ACOE		**Client Contact:** ACOE	**Subcontractor companies:** Nothing to Drill

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1 Walk the drill site
2 Check for utilities
3 Check Rig/Equipment
4 Transport Augers
5 Start Augering
6 Retrieving Samples

Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations [X] If there are none, write "None" here: _____

If yes, describe them here: Highway Department operation in Laydown Yard

How will they be controlled? Use Trucks + Cones to mark and block work areas

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
[ ] Not applicable		[ ] Working at Height		[ ] Confined Space	
[ ] Energy Isolation (LOTO)		[X] Excavation/Trenching	Utility Checklist	[ ] Hot Work	
[ ] Mechanical Lifting Ops		[X] Overhead & Buried Utilities	811 GPR	[ ] Other permit	

Discuss following questions (for some review previous day's post activities). **Check if yes :**

[ ] Incidents from day before to review?	[ ] Lessons learned from the day before?	[ ] Topics from Corp H&S to cover?
[ ] Any corrective actions from yesterday?	[ ] Will any work deviate from plan?	[ ] Any Stop Work Interventions yesterday?
[ ] JLAs or procedures are available?	[ ] Field teams to "dirty" JLAs, as needed?	[ ] If deviations, notify PM & client
[X] Staff has appropriate PPE?	[X] Staff knows Emergency Plan (EAP)?	[X] All equipment checked & OK?
		[X] Staff knows gathering points?

Comments: 1st Day Drilling, Familiarize Crew w/ E-Stops on Rig + Test ARCADIS Truck

Recognize the hazards (check all those that are discussed) (Examples are provided) and **A**ssess the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

[X] Gravity (i.e., ladder, scaffold, trips) (L M H) Slips, trips, Holes	[X] Motion (i.e., traffic, moving water) (L M H) Truck Traffic	[X] Mechanical (i.e., augers, motors) (L M H) Augers
[X] Electrical (i.e., utilities, lightning) (L M H) Overhead lighting	[X] Pressure (i.e., gas cylinders, wells) (L M H) Hydraulic	[X] Environment (i.e., heat, cold, ice) (L M H) Hot, Humid
[X] Chemical (i.e., fuel, acid, paint) (L M H) unknown	[X] Biological (i.e., ticks, poison ivy) (L M H) Ticks, Mistikes, poison ivy	[X] Radiation (i.e., alpha, sun, laser) (L M H) Sun
[X] Sound (i.e., machinery, generators) (L M H) Loud Machines	[X] Personal (i.e. alone, night, not fit) (L M H) N/A	[X] Driving (i.e. car, ATV, boat, dozer) (L M H) Watch Sinkholes in Laydown Area

Continue TRACK Process on Page 2

TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes.

- [X] **STOP WORK AUTHORITY** (Must be addressed in every Tailgate meeting - *(See statements below)*
- [X] Elimination
- [X] Engineering controls
- [X] General PPE Usage
- [X] Personal Hygiene
- [X] Emergency Action Plan (EAP)
- [ ] JLA to be developed/used ***(specify)***

- [ ] Substitution
- [ ] Administrative controls
- [X] Hearing Conservation
- [ ] Exposure Guidelines
- [ ] Fall Protection
- [ ] LPO conducted ***(specify job/JLA)***

- [ ] Isolation
- [X] Monitoring PID
- [ ] Respiratory Protection
- [X] Decon Procedures
- [X] Work Zones/Site Control
- [ ] Traffic Control
- [ ] Other ***(specify)***

Signature and Certification Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign in Time	Initial & Sign out Time	I have read and understand the HASP
Jeff Boyer / ARCADIS /	7:00	6:15	
Steve Lorch / NDI /	0730	3:30	
Avery Wall / NDI /	"	"	
Michael Cliggett / SERES /	"	6:15	
Kate Clubine / ARCADIS	1500	6:15	

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3844.

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3844 and then Corp Legal at 1.720.344.3756.

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.9556 and Corp H&S at 1.720.344.3500

Visitor Name/Co - not involved in work

Pat Ryan 16-16:15 18:00 16:15

In	Out
In	Out
In	Out
In	Out

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB,** I will perform **TRACK**; and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:)

- [ ] Lessons learned and best practices learned today: None
- [ ] Incidents that occurred today: None
- [ ] Any Stop Work interventions today? None
- [ ] Corrective/Preventive Actions needed for future work: None
- [ ] Any other H&S issues: None

Keep H&S 1st in all things

WorkCare - 1.800.455.6155
Near Loss Hotline - 1.866.242.4304

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

FUDS Project Number:
C02NY0079

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (8/12/2020)

ONSITE DATE Wednesday 8/12/2020

ONSITE RESOURCES
- 7:30 – 15:30 Nothnagle – Jeremiah Leatherstich and Steve Loranty
- 7:30 – 18:30 JV – Jeff Brayer (Arcadis) and Michael Cliggett (SERES)

COMPLETED ACTIVITIES
- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak)
- Completed H&S tailgate meeting prior to onsite activities. See attached form.
- Refreshed utility mark outs and locations stakes.
- Began installation of MW7BR (bedrock well).
  - Petroleum like odor observed in well casing at 12.5' bgs (head space) with a PID reading of 116 ppm.
    - No sheen or staining was observed in the soil cuttings.
    - Weathered bedrock is present at 12.5' bgs, and elevated PID readings were not observed above the weathered bedrock. It is possible that the elevated reading naturally occurs due to local rock formation exhibiting petroleum like odors and formation gas; however, this observation will be further evaluated next week during installation of MW7OB (overburden well).
  - A portion of the borehole from approximately 14-17' bgs of highly fractured rock collapsed after hole was reamed from NQ to HQ diameter. A 3" split spoon was used to clear borehole prior to setting well. Borehole remained open while placing filter sand pack and bentonite seal
  - Based on the observed cuttings and confirmation split spoons, highly weathered shale is present from 12-14' bgs, and this interval was dry. Competent bedrock was encountered at 14' bgs and the first water-bearing zone was encountered from 14 to 15' bgs. To provide for monitoring of the 14-15' bgs zone, while sealing the bedrock from the overburden/weathered bedrock, the well screen was installed short of the highly weathered shale interval, and the sand pack was installed to 2 feet above the screen to capture the shallow zone. This well construction allowed us to monitor this zone while being able to seal the bedrock from the overburden/ weathered rock.

MW7BR (Bedrock Well)	
Top of fractured bedrock	12' bgs
Top of competent bedrock (shale)	14' bgs
Water level	2-3' bgs
First water bearing zone	14-15' bgs
Second water bearing zone	20-24' bgs
2" 10 slot screen (8' of screen)	16-24' bgs
Sand	14'-16' bgs
Bentonite Seal	12-14' bgs
Grout (completed 8/13/2020)	2-12' bgs

DAILY FIELD REPORT - Wednesday 8/12/2020
Nike BU 51/52 – Hamburg, NY

PLANNED ACTIVITIES FOR 8/13/2020

- Complete grouting of MW7BR.
- Begin installation of MW4BR.

PHOTOGRAPHS

Rig set up at MW7BR.

Bentonite pellet seal being placed above the filter pack sand.

MW7BR 12-12.5 bgs. Elevated PID at 12.5' bgs.

MW7BR 14-16' bgs cave in. Top of competent rock is heavily fractured.

ARCADIS

Document Control Number:TGM - _____

TGM + *project number plus date as follows: xxxxxxxx.xxxx.xxxxx - dd/mm/year*

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: JV Former Nike BU 51/52 Landfill Area			**Project Location:** Larch Area
Date: 6-12-2020	**Time:** 7:45	**Conducted by:** J. Brayton	**Signature/Title:**
Client:		**Client Contact:**	**Subcontractor companies:** Nebraska Drilling

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1 Top off MW9BR
2 Down augers
3 Set up Rig on MW7BR
4 Advance Augers
5 Split spoon some
6 Core back

Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations ☐ If there are none, write "None" here: _____

If yes, describe them here: Pressures, Heavy Augers

How will they be controlled? Stand clear of area (work area)

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
☐ Not applicable		☐ Working at Height		☐ Confined Space	
☐ Energy Isolation (LOTO)		☐ Excavation/Trenching		☐ Hot Work	
☐ Mechanical Lifting Ops		☒ Overhead & Buried Utilities	811, GR	☐ Other permit	

Discuss following questions (for some review previous day's post activities). **Check if yes :**

☐ Incidents from day before to review?	☐ Lessons learned from the day before?	☐ Any Stop Work Interventions yesterday?
☐ Any corrective actions from yesterday?	☐ Will any work deviate from plan?	☐ If deviations, notify PM & client
☐ JLAs or procedures are available?	☐ Field teams to "dirty" JLAs, as needed?	☐ All equipment checked & OK?
☐ Staff has appropriate PPE?	☐ Staff knows Emergency Plan (EAP)?	☐ Staff knows gathering points?

☐ Topics from Corp H&S to cover?

Comments: _____

Recognize the hazards (check all those that are discussed) (Examples are provided) and **A**ssess the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

☒ Gravity (i.e., ladder, scaffold, trips) (L M H) Slips, Trips, Falls	☒ Motion (i.e., traffic, moving water) (L M H) Dept of Hwy Traffic	☒ Mechanical (i.e., augers, motors) (L M H) Moving Augers
☒ Electrical (i.e., utilities, lightning) (L M H) Overhead Lighting	☒ Pressure (i.e., gas cylinders, wells) (L M H) Hydraulics from CME Rig	☒ Environment (i.e., heat, cold, ice) (L M H) Heat / High Temps
☒ Chemical (i.e., fuel, acid, paint) (L M H) Naturally occurring fuels in sediment	☒ Biological (i.e., ticks, poison ivy) (L M H) Ticks, Poison Ivy	☒ Radiation (i.e., alpha, sun, laser) (L M H) Sunlight exposure
☒ Sound (i.e., machinery, generators) (L M H) CME Drill Rig	☐ Personal (i.e. alone, night, not fit) (L M H)	☒ Driving (i.e. car, ATV, boat, dozer) (L M H) Company Vehicle Transport while working

Continue TRACK Process on Page 2

TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes.

[X] **STOP WORK AUTHORITY** (Must be addressed in every Tailgate meeting - (*See statements below*)		
[ ] Elimination	[ ] Substitution	[ ] Isolation
[ ] Engineering controls	[ ] Administrative controls	[X] Monitoring
[X] General PPE Usage	[X] Hearing Conservation	[ ] Respiratory Protection
[ ] Personal Hygiene	[ ] Exposure Guidelines	[ ] Decon Procedures
[ ] Emergency Action Plan (EAP)	[ ] Fall Protection	[ ] Work Zones/Site Control
[ ] JLA to be developed/used ***(specify)***	[ ] LPO conducted ***(specify job/JLA)***	[ ] Traffic Control
		[ ] Other ***(specify)***
[ ] PPE INSPECTION PRIOR TO USE	[ ] EAR PLUGS	[ ] PDR INSTRUMENT

Signature and Certification Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign in Time	Initial & Sign out Time	I have read and understand the HASP
Michael Cliggett / SERES / Michael Cliggett	0730	18:30	MC
Jeff Brazer / ARCADIS /	7:30	18:30	JB
Jeremiah Lockhardich / NDI /	0:730	15:30	JL
Steve Laraby / NDI /	0730	15:30	SL

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3844.

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3844 and then Corp Legal at 1.720.344.3756.

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.9556 and Corp H&S at 1.720.344.3500

Visitor Name/Co - not involved in work

In	Out
In	Out
In	Out
In	Out

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB**, I will perform **TRACK**; and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:)

- [ ] Lessons learned and best practices learned today: _____
- [ ] Incidents that occurred today: _____
- [ ] Any Stop Work interventions today? _____
- [ ] Corrective/Preventive Actions needed for future work: _____
- [ ] Any other H&S issues: _____

Keep H&S 1st in all things

WorkCare - 1.800.455.6155
Near Loss Hotline - 1.866.242.4304

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (8/13/2020)

ONSITE DATE Thursday 8/13/2020

ONSITE RESOURCES
- 7:30 – 15:30 Nothnagle – Avery Wall and Steve Loranty
- 7:30 – 18:00 JV – Jeff Brayer (Arcadis) and Michael Cliggett (SERES)

COMPLETED ACTIVITIES
- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting prior to onsite activities. See attached form.
- Completed grouting at MW7BR and MW9BR and installed 4' stick-up protective casings at both wells.
- Began installation of MW4BR (bedrock well).
  - The well was dry during drilling until top of competent rock was penetrated at 15' bgs, and then water rose to 6' bgs. While coring the water bearing zones were observed at:
    - 15'-17' bgs– approximately 50 gallons of water lost while drilling
    - 21.3'-25' bgs – approximately 70 gallons of water gained while drilling
  - Petroleum like odor observed in well casing at 21.7' bgs (head space) with a PID reading of 35 ppm.
    - No sheen or staining was observed in the soil cuttings.
    - It is possible that the elevated reading naturally occurs due to local rock formation exhibiting petroleum like odors and formation gas; however, this observation will be further evaluated next week during installation of MW4OB (overburden well).
  - Reamed borehole from NQ to HQ diameter to set well. Grouted with tremie pipe and installed 4' stick-up protective casing.
  - Competent bedrock was encountered at 15' bgs and the first water-bearing zone was encountered from 15 to 17' bgs. To provide for monitoring of the 15-17' bgs zone, while sealing the bedrock from the overburden/weathered bedrock, the well screen was installed short of the top of shallow interval, and the sand pack was installed to 2 feet above the screen to capture the shallow zone. This well construction allowed us to monitor this zone while being able to seal the bedrock from the overburden/ weathered rock.

MW4BR (Bedrock Well)	
Top of competent bedrock (shale)	15' bgs
Water level	6' bgs
First water bearing zone	15-17' bgs
Second water bearing zone	21.3'-25' bgs
2" 10 slot screen (8' of screen)	17-25' bgs
Sand	15'-17' bgs
Bentonite Seal	13'-15' bgs
Grout	2-13' bgs

PLANNED ACTIVITIES FOR 8/14/2020

- Top off grout below protective casings at MW4BR, MW7BR and MW9BR
- Begin installation of MW5BR.

PHOTOGRAPHS

Rig setting up to install MW4BR

Hollow stem auguring at MW4BR

Bentonite pellet seal being placed above the filter pack sand.

Borehole grouting above bentonite pellet seal using a tremie pipe.

Additional photographs of core will be included in weekly summary report.

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (8/14/2020)

ONSITE DATE Friday 8/14/2020

ONSITE RESOURCES
- 7:30 – 17:30 Nothnagle – Avery Wall and Steve Loranty
- 7:30 – 19:00 JV – Jeff Brayer (Arcadis) and Michael Cliggett (SERES)

COMPLETED ACTIVITIES
- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting prior to onsite activities. See attached form.
- Began installation of MW5BR (bedrock well).
  - Petroleum like odor observed in well casing at interface of competent rock (19'bgs) and through length of core with a PID reading of 3.8 ppm.
    - No sheen or staining was observed in the soil cuttings.
    - It is possible that the elevated reading naturally occurs due to local rock formation exhibiting petroleum like odors and formation gas; however, this observation will be further evaluated next week during installation of MW5OB (overburden well).
  - Top of fractured bedrock was encountered at 9.5' bgs, with first water bearing zone observed at 17.5' bgs in overburden and top of competent rock (shale) at 19' bgs. Coring was completed from 19' to 34' bgs.
    - Water loss did not occur during coring, and a second water bearing zone was not observed in this depth interval. Minimal fractures were observed.
    - The borehole was pumped down and allowed to recharge to 4' over 25 minutes. The water was observed infiltrating at interface of overburden and top of bedrock by way of spotlight down borehole.
    - It is suspected that recharge is not coming from bedrock fractures but rather from overburden with water running down the borehole indicating recharge. A hybrid water table may be present.
    - The borehole was left open to recharge to static. The drill rig was secured onsite with caution tape.
- The following measurements were obtained:

Bedrock Well	Water Level		Total Depth	
	TOC	BGS	TOC	BGS
MW4BR	5.66'	2.47'	28.4'	25.15'
MW7BR	5.93'	2.75'	27.21'	24.02'
MW9BR	9.31'	6.46'	26.35'	23.55'

PLANNED ACTIVITIES FOR 8/17/2020
- Measure water level recharge and core from 34-39' bgs to determine if second water bearing zone is present.
- Contact Pete Dienes of Hamburg Police Department to coordinate range access for installation of MW1BR.

PHOTOGRAPHS

Hollow stem auguring at MW5BR

Rock coring at MW5BR

Bailing water out of borehole to confirm recharging capabilities of competent bedrock at MW5BR.

MW5BR drilling site with restricted access. Includes labeled non-hazardous investigation derived waste drums for soil cuttings and groundwater.

Additional photographs of core will be included in weekly summary report.

ARCADIS

Document Control Number:TGM - _____

TGM + *project number plus date as follows: xxxxxxxx.xxxx.xxxxx - dd/mm/year*

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: Hornby Nike Base BU 51/52		**Project Location:** 2720 Lake View Rd	
Date: 8-14-20	**Time:**	**Conducted by:** J. Braver	**Signature/Title:** Geologist
Client: Army Corp of Engineers	**Client Contact:** ACE		**Subcontractor companies:** Lethbridge Drilling

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1 Mobilize to Next Hole 3 Auger/Core to Depth 5 _____

2 Decon augers, Housekeeping 4 _____ 6 _____

Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations [X] If there are none, write "None" here: _____

If yes, describe them here: Town Highway traffic, Neighboring Properties

How will they be controlled? Park off work area w/ Tape, Trucks, Hi-Viz

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
[ ] Not applicable		[ ] Working at Height		[ ] Confined Space	
[ ] Energy Isolation (LOTO)		[X] Excavation/Trenching	811, DRC Truck	[ ] Hot Work	
[ ] Mechanical Lifting Ops		[X] Overhead & Buried Utilities	Overhead Poles	[ ] Other permit	

Discuss following questions (for some review previous day's post activities). **Check if yes :**

[ ] Incidents from day before to review?	[ ] Lessons learned from the day before?	[ ] Topics from Corp H&S to cover?
[ ] Any corrective actions from yesterday?	[ ] Will any work deviate from plan?	[ ] Any Stop Work Interventions yesterday?
[ ] JLAs or procedures are available?	[ ] Field teams to "dirty" JLAs, as needed?	[ ] If deviations, notify PM & client
[X] Staff has appropriate PPE?	[X] Staff knows Emergency Plan (EAP)?	[X] All equipment checked & OK?
		[X] Staff knows gathering points? ARCADIS Truck

Comments: _____

Recognize the hazards (check all those that are discussed) (Examples are provided) and **A**ssess the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

[X] Gravity (i.e., ladder, scaffold, trips) (L (M) H) Slip, Trips, Falls	[X] Motion (i.e., traffic, moving water) (L (M) H) Truck traffic - Work entrance	[X] Mechanical (i.e., augers, motors) (L (M) H) Augers, Rods, Weights
[X] Electrical (i.e., utilities, lightning) (L M H) Overhead and unmarked underground	[X] Pressure (i.e., gas cylinders, wells) (L M H) Water Pressure	[X] Environment (i.e., heat, cold, ice) (L M H) Hot, Humid - Hydrate
[X] Chemical (i.e., fuel, acid, paint) (L (M) H) Petroleum like odors	[X] Biological (i.e., ticks, poison ivy) (L (M) H) Mosquitos	[X] Radiation (i.e., alpha, sun, laser) (L M H) Sun - Wear Sun Screen
[X] Sound (i.e., machinery, generators) (L M (Hi)) Wear ear plugs / Muffs	[ ] Personal (i.e. alone, night, not fit) (L M H) N/A	[X] Driving (i.e. car, ATV, boat, dozer) (L M H) Look both ways

Continue TRACK Process on Page 2

TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes.

☒ **STOP WORK AUTHORITY** (Must be addressed in every Tailgate meeting - (*See statements below*)

☐ Elimination	☐ Substitution	☐ Isolation
☐ Engineering controls	☐ Administrative controls	☐ Monitoring
☐ General PPE Usage	☐ Hearing Conservation	☐ Respiratory Protection
☐ Personal Hygiene	☐ Exposure Guidelines	☐ Decon Procedures
☐ Emergency Action Plan (EAP)	☐ Fall Protection	☐ Work Zones/Site Control
☐ JLA to be developed/used ***(specify)***	☐ LPO conducted ***(specify job/JLA)***	☐ Traffic Control
		☐ Other ***(specify)***

Signature and Certification Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign in Time	Initial & Sign out Time	I have read and understand the HASP
Jeff Baxter / ARCADIS / Jeff Baxter	JB 7:00	JB 19:00	
Avery Wall / NDI / Avery Wall	AW 7:37	AW 5:30	
Steve Laranty NDI Steve Laranty	SL 7:30	SL 5:30	
Michael Claggett / SERES / Michael Claggett	MC 0730	MC 1900	

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3844.

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3844 and then Corp Legal at 1.720.344.3756.

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.9556 and Corp H&S at 1.720.344.3500

Visitor Name/Co - not involved in work

In	Out
In	Out
In	Out
In	Out

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB,** I will perform **TRACK**; and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:)

- ☐ Lessons learned and best practices learned today: _____
- ☐ Incidents that occurred today: _____
- ☐ Any Stop Work interventions today? _____
- ☐ Corrective/Preventive Actions needed for future work: _____
- ☐ Any other H&S issues: _____

Keep H&S 1st in all things

WorkCare - 1.800.455.6155
Near Loss Hotline - 1.866.242.4304

WEEKLY FIELD SUMMARY

To:
Erin Kirby, USACE - New England

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

Date:
August 17, 2020

FUDS Project Number:
C02NY0079

Subject:

Nike BU 51/52 – Hamburg, NY – Weekly Field Summary (August 10, 2020 – August 14, 2020)

Onsite Personnel (See Daily Field Report for Individual Names and Times Onsite)

- JV (Arcadis): 8/10/2020 – 8/14/2020
- JV (SERES): 8/11/2020 – 8/14/2020
- Nothnagle: 8/10/2020 – 8/14/2020

Completed Activities

- Installation of bedrock monitoring wells MW9BR, MW7BR, and MW4BR are complete. Photographs of the cores of MW9BR, MW7BR, and MW4BR are attached to this summary. Installation of MW5BR began on 8/14/2020 and is anticipated to be completed on 8/17/2020.
- A round of water levels was collected on 8/14/2020.

Items Discussed

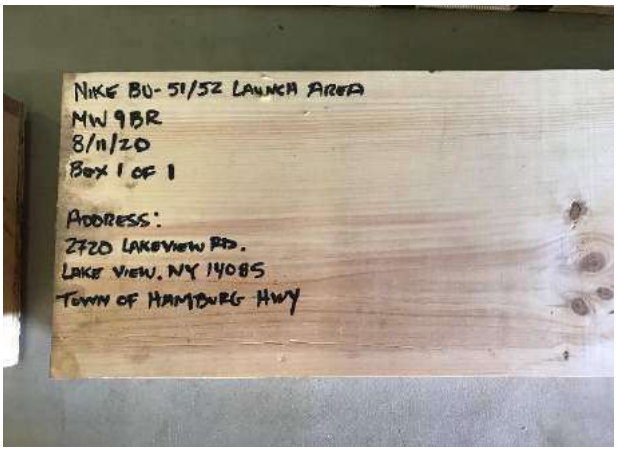
- Location 17 has been removed from the scope work per the USACE PM. It was confirmed by Rick Nowak of the Town of Hamburg Buildings and Grounds Department that the wastewater treatment plant (WWTP) has been in use by the Town since taking ownership of the property from the Department of Defense. Therefore, it is not possible to distinguish whether potential impacts from the WWTP occurred during the period the WWTP was operated by the Department of Defense or was operated by the Town.

Health and Safety

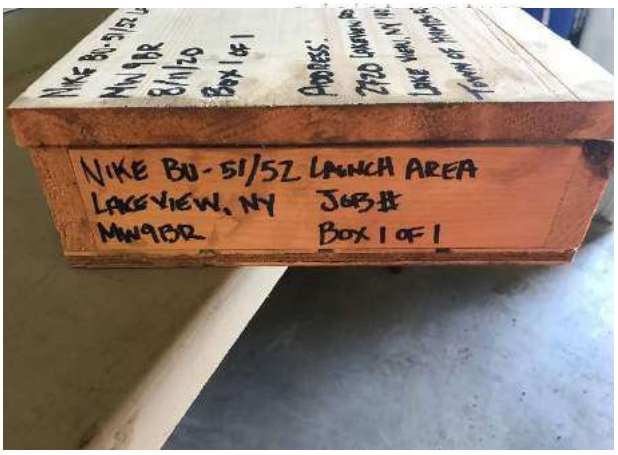
- Checked in with Town of Hamburg Buildings and Grounds daily.
- Completed H&S tailgate meetings daily prior to onsite activities.
- Zero Lost-Time Accidents

Planned Activities

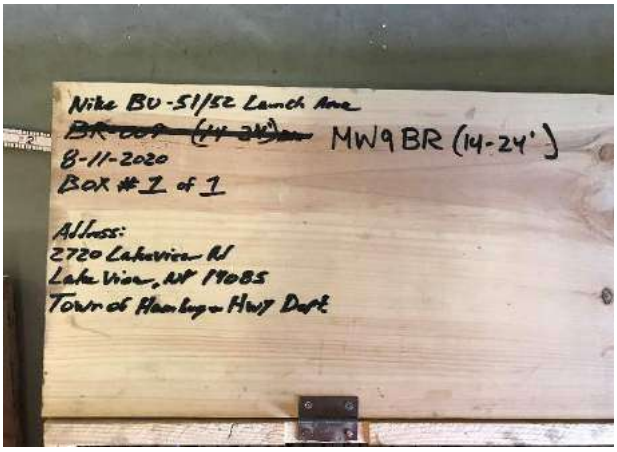
- JV is currently coordinating with the Town of Hamburg Police Department to schedule access to locations MW1BR and MW1OB, which are located near the small arms range. The range will not be in use on Friday 8/21/2020 and potentially one additional day the between 8/18/2020 and 8/20/2020. The JV will install these two wells during one of these times.
- Olivia Beaulieu of USACE will be onsite 8/18/2020 through 8/20/2020 to oversee fieldwork.
- Overburden well installation and soil sampling will begin 8/18/2020. A sample tracking spreadsheet will be included with future weekly summaries.
- H&S audit by JV using Accident Prevention Plan forms planned for Tuesday 8/18/2020.



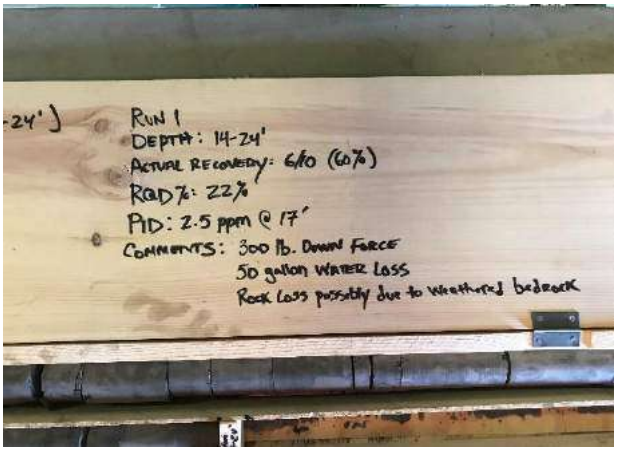
Photograph 1 of 10 for MW9BR



Photograph 2 of 10 for MW9BR



Photograph 3 of 10 for MW9BR



Photograph 4 of 10 for MW9BR

Photograph 5 of 10 for MW9BR

Photograph 6 of 10 for MW9BR

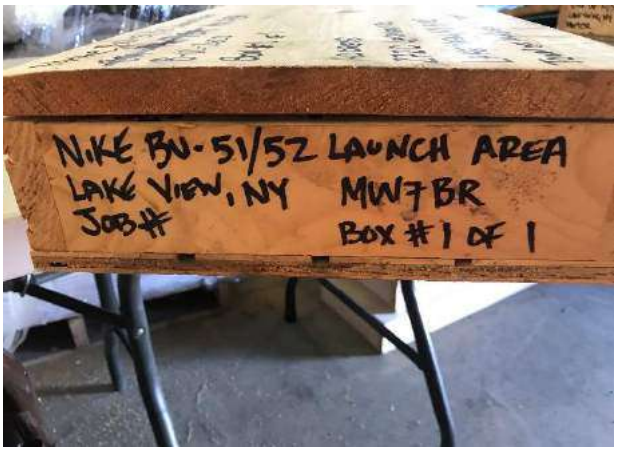
Photograph 7 of 10 for MW9BR

Photograph 8 of 10 for MW9BR

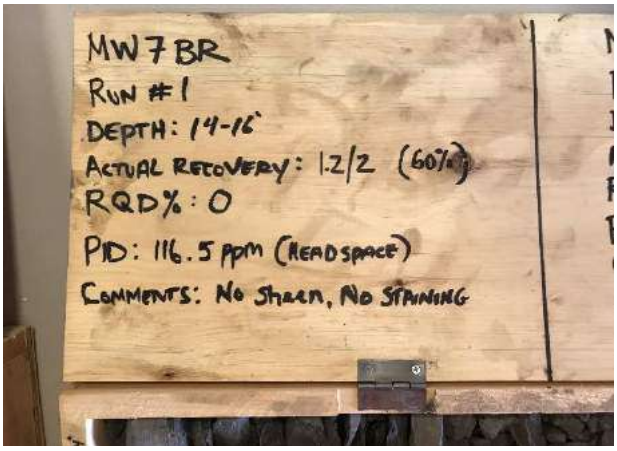
Photograph 9 of 10 for MW9BR

Photograph 10 of 10 for MW9BR

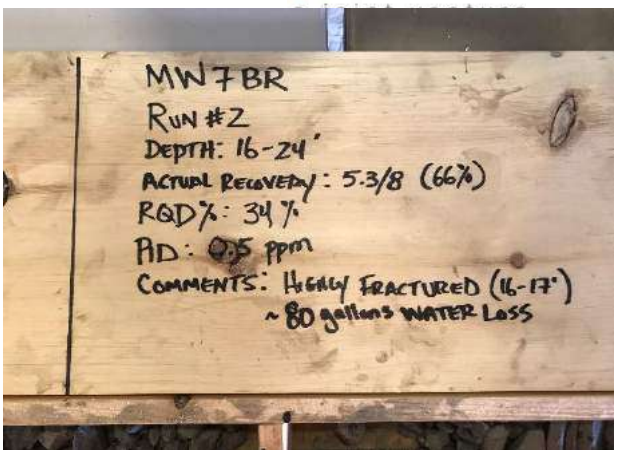
Photograph 1 of 9 for MW7BR



Photograph 2 of 9 for MW7BR



Photograph 3 of 9 for MW7BR



Photograph 4 of 9 for MW7BR

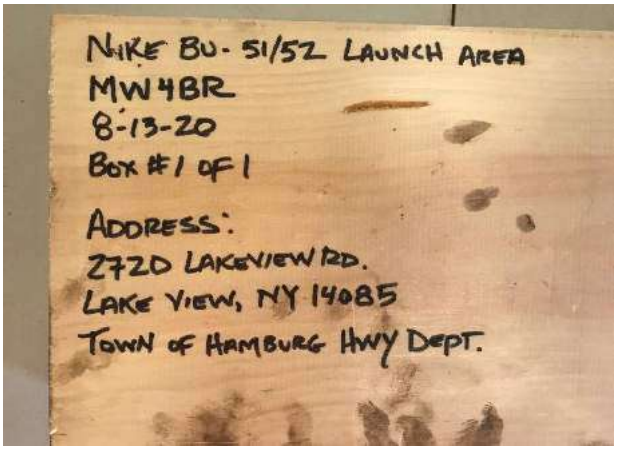
Photograph 5 of 9 for MW7BR

Photograph 6 of 9 for MW7BR

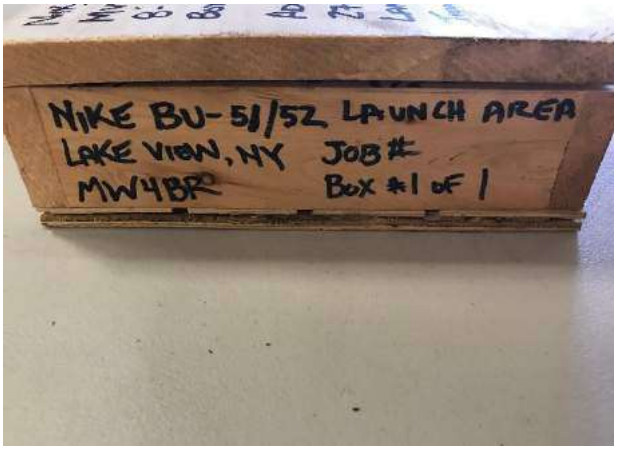
Photograph 7 of 9 for MW7BR

Photograph 8 of 9 for MW7BR

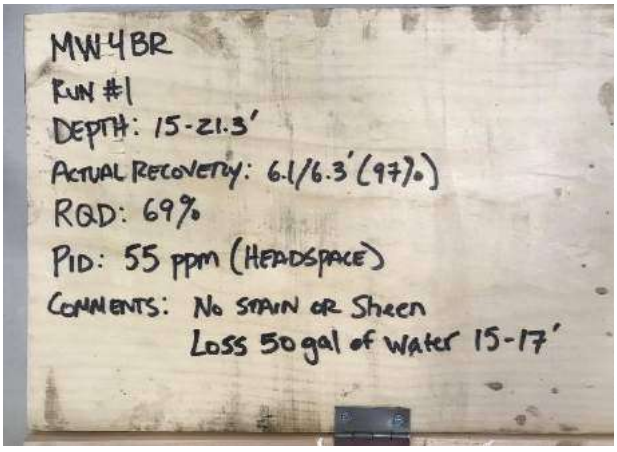
Photograph 9 of 9 for MW7BR



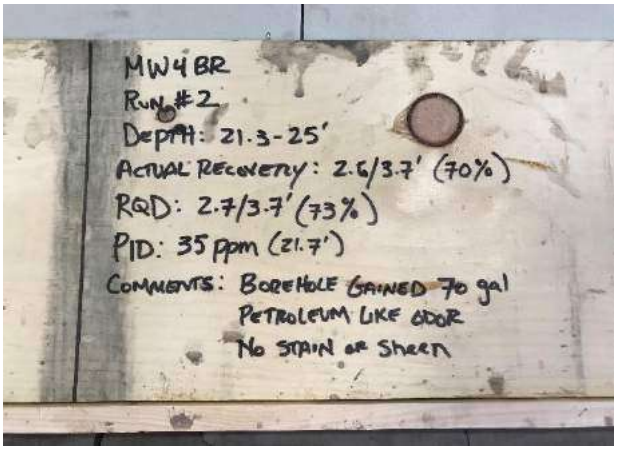
Photograph 1 of 13 for MW4BR



Photograph 2 of 13 for MW4BR



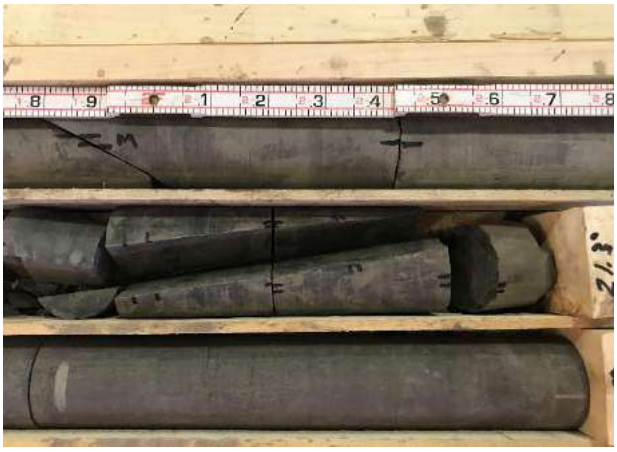
Photograph 3 of 13 for MW4BR



Photograph 4 of 13 for MW4BR

Photograph 5 of 13 for MW4BR

Photograph 6 of 13 for MW4BR

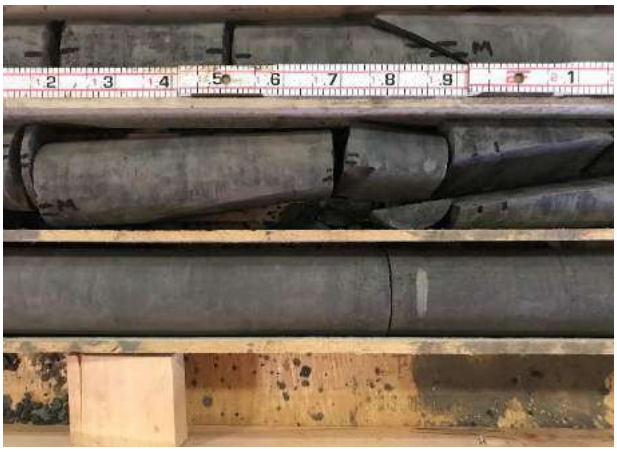


Photograph 7 of 13 for MW4BR

Photograph 8 of 13 for MW4BR

Photograph 9 of 13 for MW4BR

Photograph 10 of 13 for MW4BR



Photograph 11 of 13 for MW4BR

Photograph 12 of 13 for MW4BR

Photograph 13 of 13 for MW4BR

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (8/17/2020)

ONSITE DATE Monday 8/17/2020

ONSITE RESOURCES
- 7:30 – 15:00 Nothnagle – Avery Wall and Steve Loranty
- 7:30 – 18:00 JV – Jeff Brayer (Arcadis) and Michael Cliggett (SERES)

COMPLETED ACTIVITIES
- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting prior to onsite activities. See attached form.
- Continued installation of MW5BR (bedrock well) from 34'-39' bgs.
  - Petroleum like odor observed in length of core with a PID reading of 2.7 ppm.
    - No sheen or staining was observed in the soil cuttings.
    - It is possible that the elevated reading naturally occurs due to local rock formation exhibiting petroleum like odors and formation gas; however, this observation will be further evaluated next week during installation of MW5OB (overburden well).
  - 15 gallons of water gained at 36.4' bgs. Recirculation water changed color from grey to brown, indicating a possible mud seam.
  - Measured static water level at 2.75' bgs following recharge over weekend. Water was observed at 17.5' bgs when overburden was drilled on Friday 8/14/2020.
  - Grouted with tremie pipe and installed 4' stick-up protective casing.

MW5BR (Bedrock Well)	
Top of competent bedrock (shale)	19' bgs
Water level	2.75'
First water bearing zone	17.5' bgs (in weathered bedrock)
Second water bearing zone	36.4' bgs
2" 10 slot screen (10' of screen)	29'-39' bgs
Sand	27'-29' bgs
Bentonite Seal	25-27' bgs
Grout	2-25' bgs

PLANNED ACTIVITIES FOR 8/18/2020
- Perform subsurface soil sampling and installation of MW9OB and MW7OB (overburden wells).
- Meet Town of Hamburg Buildings and Grounds crew at the range to assist moving the telephone pole that is blocking access to MW1BR and MW1BO location.

PLANNED ACTIVITIES FOR 8/19/2020

- Drill MW1BR on Wednesday.

PHOTOGRAPHS

Additional rock coring at MW5BR (34-39' bgs)

Bedrock core extraction at MW5BR

Adding bentonite chips to MW5BR

MW5BR with protective stick-up casing.

Additional photographs of core will be included in weekly summary report.

ARCADIS

Document Control Number:TGM - _____

TGM + *project number plus date as follows: xxxxxxxx.xxxx.xxxxx - dd/mm/year*

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: Hornby NIKE BU 51/52			**Project Location:** Hornby Highway Dept
Date: 8-17-20	**Time:** 7:30	**Conducted by:** J. Brazel	**Signature/Title:**
Client: ACOE		**Client Contact:** ACOE JV	**Subcontractor companies:** Nothnagle Drilling

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1 CONTINUE DRILLING @ MW5BR
2 SET WELL @ MW5BR
3 MOBILIZE @ OVERBURDEN WELL
4 WASTE HANDLING
5 DECON/HOUSEKEEPING
6

Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations ☐ If there are none, write "None" here: NONE

If yes, describe them here: _____

How will they be controlled? _____

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
☒ Not applicable		☐ Working at Height		☐ Confined Space	
☐ Energy Isolation (LOTO)		☐ Excavation/Trenching		☐ Hot Work	
☐ Mechanical Lifting Ops		☒ Overhead & Buried Utilities	811 GPR	☐ Other permit	

Discuss following questions (for some review previous day's post activities). **Check if yes :**

☐ Incidents from day before to review?	☐ Lessons learned from the day before?	☐ Topics from Corp H&S to cover?
☐ Any corrective actions from yesterday?	☐ Will any work deviate from plan?	☐ Any Stop Work Interventions yesterday?
☐ JLAs or procedures are available?	☐ Field teams to "dirty" JLAs, as needed?	☒ If deviations, notify PM & client
☐ Staff has appropriate PPE?	☐ Staff knows Emergency Plan (EAP)?	☐ All equipment checked & OK?
		☐ Staff knows gathering points?

Comments: DRILLING ADDITIONAL 5' BGS @ MW5BR TO VERIFY WATER IN BEDROCK (34-39' BGS)

Recognize the hazards (check all those that are discussed) (Examples are provided) and **A**ssess the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

☒ Gravity (i.e., ladder, scaffold, trips) (L M H) — SLIPS, TRIPS, FALLS	☒ Motion (i.e., traffic, moving water) (L M H) — DEPT Highway Vehicles	☒ Mechanical (i.e., augers, motors) (L M H) — AUGERS
☒ Electrical (i.e., utilities, lightning) (L M H) — OVERHEAD LINES	☒ Pressure (i.e., gas cylinders, wells) (L M H) — WATER PRESSURE	☒ Environment (i.e., heat, cold, ice) (L M H) — HEAT
☒ Chemical (i.e., fuel, acid, paint) (L M H) — PETROLEUM-like ODORS	☒ Biological (i.e., ticks, poison ivy) (L M H) — Mosquitos, TICKS	☒ Radiation (i.e., alpha, sun, laser) (L M H) — SUNlight
☒ Sound (i.e., machinery, generators) (L M H) — CME DRill Rig	☐ Personal (i.e. alone, night, not fit) (L M H) — NA	☒ Driving (i.e. car, ATV, boat, dozer) (L M H) — TRANSPORTING ONSITE

Continue TRACK Process on Page 2

TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes.

- [x] **STOP WORK AUTHORITY** (Must be addressed in every Tailgate meeting - (*See statements below*)

[ ] Elimination	[ ] Substitution	[ ] Isolation
[ ] Engineering controls	[ ] Administrative controls	[ ] Monitoring
[x] General PPE Usage	[x] Hearing Conservation	[ ] Respiratory Protection
[ ] Personal Hygiene	[ ] Exposure Guidelines	[x] Decon Procedures
[ ] Emergency Action Plan (EAP)	[ ] Fall Protection	[ ] Work Zones/Site Control
[ ] JLA to be developed/used ***(specify)***	[ ] LPO conducted ***(specify job/JLA)***	[ ] Traffic Control
[ ]	[ ]	[ ] Other ***(specify)***
[ ]	[ ] EARPLUGS DURING DRILLING	[ ] DECON AUGERS BETWEEN WELLS

Signature and Certification Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign in Time	Initial & Sign out Time	I have read and understand the HASP
Michael Clippett / SERCO / Michael Clippett	MC 0730	MC 1800	X
Steve Lowry / NDT /	0730	SL 1500	X
Avery Wall / NDT /	0730	AW 1500	X
Jeff Brazer / ARCADIS JV /	07:30	JB 18:00	X

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3844.

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3844 and then Corp Legal at 1.720.344.3756.

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.9556 and Corp H&S at 1.720.344.3500

Visitor Name/Co - not involved in work

In	Out
In	Out
In	Out
In	Out

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB**, I will perform **TRACK**; and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:)

- [ ] Lessons learned and best practices learned today: _____
- [ ] Incidents that occurred today: _____
- [ ] Any Stop Work interventions today? _____
- [ ] Corrective/Preventive Actions needed for future work: _____
- [ ] Any other H&S issues: _____

Keep H&S 1st in all things

WorkCare - 1.800.455.6155
Near Loss Hotline - 1.866.242.4304

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (8/18/2020)

ONSITE DATE Tuesday 8/18/2020

ONSITE RESOURCES

- 7:30 – 15:30 Nothnagle – Avery Wall and Steve Loranty
- 7:30 – 16:30 – USACE – Olivia Beaulieu
- 7:30 – 19:30 JV – Jeff Brayer (Arcadis) and Michael Cliggett (SERES)
- 14:00 – 18:30 JV – Kate Clubine (Arcadis)

COMPLETED ACTIVITIES

- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting prior to onsite activities. See attached form.
- Audit completed by Kate Clubine. Findings include:
  - Added contact name and phone number to drum labels.
  - Created drum inventory to track waste generation (to be included in future weekly summaries).
  - Housekeeping and PPE in good order. Added general COVID best management practices to daily tailgate moving forward.
  - Documentation in good order.
  - Sampling and decon practices in good order.
- Completed installation of MW5OB (overburden well)
  - Soil and QC samples submitted to laboratory.

NHFLA-MW5OB-A-AUG2020	0-1’ bgs
NHFLA-MW5OB-B-AUG2020	1-3’ bgs
NHFLA-MW5OB-C-AUG2020	15-17’ bgs

  - No sheen or staining was observed in the soil cuttings. PID reading of 6.8 ppm at 10’ bgs. Septic-like odor of unknown origin encountered in vicinity of bottom of overburden.
  - Spoon refusal encountered at 17’ bgs. At 17.5’, water was observed via spotlight entering bore hole at base of augers. Auger refusal encountered at 18.75’ bgs (bottom of overburden).

MW5OB (Overburden Well)	
Top of competent bedrock (shale)	19’ bgs
Water level	Dry until bedrock reached, water level to be taken 8/19/2020
First water bearing zone	17.5’ bgs (in weathered bedrock)
2” 10 slot screen (10’ of screen)	8.5’-18.5’ bgs
Sand	6.5’-8.5’ bgs
Bentonite Seal	4.5’-6.5’’ bgs
Grout	2’-4.5’ bgs

PLANNED ACTIVITIES FOR 8/19/2020

- Perform installation of MW1BR (bedrock well).

PLANNED ACTIVITIES FOR 8/20/2020

- Perform subsurface soil sampling and installation of MW9OB and MW7OB (overburden wells).

PLANNED ACTIVITIES FOR 8/21/2020

- Perform subsurface soil sampling and installation of MW1OB (overburden well).

PHOTOGRAPHS

Split-spoon sampling at MW5OB

Soil characterization of split-spoon sample at MW5OB

Well completion at MW5OB with protective stick-up casing. Includes labeled non-hazardous investigation derived waste drums for soil cuttings.

Rig setting up at MW1 area.

Additional photographs of core will be included in weekly summary report.

ARCADIS

Document Control Number:TGM - _____

TGM + *project number plus date as follows: xxxxxxxx.xxxx.xxxxx - dd/mm/year*

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: HAMBURG NIKE BU-51/52 LAUNCH AREA		**Project Location:** HAMBURG HWY DEPT	
Date: 8/18/20	**Time:** 0750	**Conducted by:** M. CLIGGETT	**Signature/Title:** Michael Cliggett/SCIENTIST
Client: USACE		**Client Contact:** USACE	**Subcontractor companies:** Nothnagle DRILLING

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1 DRILL OVERBURDEN WELL ~~OB~~MW50B
2 SOIL SAMPLE @ MW50B
3 DRILL OVERBURDEN WELL MW90B
4 SOIL SAMPLE @ MW90B
5 WASTE HANDLING
6 DECON/HOUSEKEEPING

Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations ☐ If there are none, write "None" here: NONE

If yes, describe them here: _____

How will they be controlled? _____

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
☒ Not applicable		☐ Working at Height		☐ Confined Space	
☐ Energy Isolation (LOTO)		☐ Excavation/Trenching		☐ Hot Work	
☐ Mechanical Lifting Ops		☒ Overhead & Buried Utilities	811 GA2	☐ Other permit	

Discuss following questions (for some review previous day's post activities). **Check if yes :**

☐ Incidents from day before to review?	☐ Lessons learned from the day before?	☐ Any Stop Work Interventions yesterday?
☐ Any corrective actions from yesterday?	☐ Will any work deviate from plan?	☐ If deviations, notify PM & client
☐ JLAs or procedures are available?	☐ Field teams to "dirty" JLAs, as needed?	☐ All equipment checked & OK?
☐ Staff has appropriate PPE?	☐ Staff knows Emergency Plan (EAP)?	☐ Staff knows gathering points?
☐ Topics from Corp H&S to cover?		

Comments: NA

Recognize the hazards (check all those that are discussed) (Examples are provided) and **A**ssess the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

☒ Gravity (i.e., ladder, scaffold, trips) (L M H) SLIPS, TRIPS, FALLS	☒ Motion (i.e., traffic, moving water) (L M H) DEPT HWY VEHICLES	☒ Mechanical (i.e., augers, motors) (L M H) AUGERS
☒ Electrical (i.e., utilities, lightning) (L M H) OVERHEAD LINES	☒ Pressure (i.e., gas cylinders, wells) (L M H) WATER PRESSURE	☒ Environment (i.e., heat, cold, ice) (L M H) HEAT
☒ Chemical (i.e., fuel, acid, paint) (L M H) Petroleum-like odors	☒ Biological (i.e., ticks, poison ivy) (L M H) MOSQUITOS, TICKS	☒ Radiation (i.e., alpha, sun, laser) (L M H) SUNLIGHT
☒ Sound (i.e., machinery, generators) (L M H) CME DRILL RIG	☐ Personal (i.e. alone, night, not fit) (L M H) NA	☒ Driving (i.e. car, ATV, boat, dozer) (L M H) TRANSPORT ONSITE

Continue TRACK Process on Page 2

TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes.

☒ **STOP WORK AUTHORITY** (Must be addressed in every Tailgate meeting - *(See statements below)*		
☐ Elimination	☐ Substitution	☐ Isolation
☐ Engineering controls	☐ Administrative controls	☐ Monitoring
☒ General PPE Usage	☒ Hearing Conservation	☐ Respiratory Protection
☐ Personal Hygiene	☐ Exposure Guidelines	☐ Decon Procedures
☐ Emergency Action Plan (EAP)	☐ Fall Protection	☐ Work Zones/Site Control
☐ JLA to be developed/used ***(specify)***	☐ LPO conducted ***(specify job/JLA)***	☐ Traffic Control
☐	☐	☐ Other ***(specify)***
☐	☐ EAR plugs	☐ Decon Agents

Signature and Certification Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign in Time	Initial & Sign out Time	I have read and understand the HASP
Michael Cliggett / SCRES / Michael Cliggett	MC 0800	19:30	X
Steve Lowrey / NDI	0700	1530	X
Avery Wall / NDI / Avery Wall	0700	1530	X
Olivia Beaulieu / USACE / Olivia Beaulieu	0730	1630	X
Jeff Baker / ARCADIS	0730	19:30	X
Kate Olubino ARCADIS	14:00	18:00	X

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3844.

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3844 and then Corp Legal at 1.720.344.3756.

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.9556 and Corp H&S at 1.720.344.3500

Visitor Name/Co - not involved in work

	In	Out
	In	Out
	In	Out
	In	Out

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB**, I will perform **TRACK**; and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:)

- ☐ Lessons learned and best practices learned today: _____
- ☐ Incidents that occurred today: _____
- ☐ Any Stop Work interventions today? _____
- ☐ Corrective/Preventive Actions needed for future work: _____
- ☐ Any other H&S issues: _____

Keep H&S 1st in all things

WorkCare - 1.800.455.6155
Near Loss Hotline - 1.866.242.4304

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (8/19/2020)

ONSITE DATE Wednesday 8/19/2020

ONSITE RESOURCES
- 7:30 – 15:30 Nothnagle – Avery Wall and Steve Loranty
- 7:30 – 16:00 USACE – Olivia Beaulieu
- 7:30 – 19:00 JV – Jeff Brayer (Arcadis) and Michael Cliggett (SERES)

COMPLETED ACTIVITIES
- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting prior to onsite activities. See attached form.
- Began installation of MW1OB (overburden well)
  - Soil and QC samples submitted to laboratory.

NHFLA-MW1OB-A-AUG2020	0-1’ bgs
NHFLA-MW1OB-B-AUG2020	1-3’ bgs
NHFLA-MW1OB-C-AUG2020	5-7’ bgs

  - No sheen or staining was observed in the soil cuttings. PID reading of 0.1 ppm.
  - Fill material (silt and clay, concrete, slag, asphalt, organics) from grass surface to 7’ bgs.
  - Spoon refusal encountered at 7.5’ bgs. At 7.5’, water was observed via spotlight entering bore hole at base of augers. Auger refusal encountered at 12.5’ bgs (bottom of overburden).

MW1OB (Overburden Well)	
Top of weathered, fractured bedrock	7’ bgs
Top of competent bedrock (shale)	12.5’ bgs
Water level	Dry until 7.5’ bgs, water level to be taken 8/20/2020
First water bearing zone	7.5’ bgs (in weathered bedrock)
2” 10 slot screen (7’ of screen)	5.5’-12.5’ bgs
Sand	4.5’-5.5’ bgs
Bentonite Seal	2.5’-4.5’’ bgs
Grout	0’-2.5’ bgs

- Began installation of MW1BR (bedrock well)
  - Augered to 11’ bgs, advanced roller bit to competent rock at 12’ bgs, cored from 12’-22’ bgs
    - Recovery: 90.4%, RQD: 45%
    - 30 Gallons water loss during coring from 12-17’ (Intensely fractured, slightly weathered)
    - Pumped roughly 30 gallons from the bore hole down to 11.8’ bgs. Water went from very turbid to clear and cold, which suggests water is from bedrock formation since cutting water would be warm and turbid

MW1BR (Bedrock Well)	
Top of weathered, fractured bedrock	7’ bgs
Top of competent bedrock (shale)	12.5’ bgs
Water level	7.5’ bgs (just after drilling)
First water bearing zone	12.5 – 17’ bgs (heavily fractured zone)
2” 10 slot screen (8’ of screen)	14’-22’ bgs
Sand	13’-14’ bgs
Bentonite Seal	11’-13’’ bgs
Grout	2’-11’ bgs

PLANNED ACTIVITIES FOR 8/20/2020

- Perform subsurface soil sampling and installation of MW9OB and MW7OB (overburden wells).

PHOTOGRAPHS

Split-spoon sampling at MW1OB

Rock coring at MW1BR

Rock core retrieval (Run#1) at MW1BR

Equipment blank collection from split-spoon (Vehicle was not running)

Additional photographs of core will be included in weekly summary report.

ARCADIS

Document Control Number:TGM - _____
TGM + *project number plus date as follows: xxxxxxxx.xxxx.xxxxx - dd/mm/year*

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: NMRE BV 51/52			**Project Location:** Hamburg Highway
Date: 8/19/20	**Time:** 7:30	**Conducted by:** J. Brayer	**Signature/Title:** Geologist
Client: ACOE		**Client Contact:** ACOE-See HASP	**Subcontractor companies:** Nothnagle Drilling Inc

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1 Pound Split Spoons
2 Advance Augers to depth
3 Install Wells
4 Sample Soil
5 Decon Augers
6 Core Rock

Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations [X] If there are none, write "None" here: _____

If yes, describe them here: Police Shooting Range

How will they be controlled? Range is closed for the day

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
[ ] Not applicable		[ ] Working at Height		[ ] Confined Space	
[ ] Energy Isolation (LOTO)		[X] Excavation/Trenching/Drilling	811 UPR	[ ] Hot Work	
[ ] Mechanical Lifting Ops		[X] Overhead & Buried Utilities	811 UPR	[ ] Other permit	

Discuss following questions (for some review previous day's post activities). **Check if yes :**

[ ] Incidents from day before to review?	[ ] Lessons learned from the day before?	[ ] Topics from Corp H&S to cover?
[X] Any corrective actions from yesterday?	[ ] Will any work deviate from plan?	[ ] Any Stop Work Interventions yesterday?
[ ] JLAs or procedures are available?	[ ] Field teams to "dirty" JLAs, as needed?	[ ] If deviations, notify PM & client
[X] Staff has appropriate PPE?	[ ] Staff knows Emergency Plan (EAP)?	[ ] All equipment checked & OK?
		[ ] Staff knows gathering points?

Comments: Stand to the Side When pulling Augers, Never directly behind in case cable breaks

Recognize the hazards (check all those that are discussed) (Examples are provided) and **A**ssess the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

[X] Gravity (i.e., ladder, scaffold, trips) (L M (H)) Slips, Trips, Falls (Cut Vegitation	[X] Motion (i.e., traffic, moving water) (L (M) H) Moving Equipment	[X] Mechanical (i.e., augers, motors) (L (M) H) Augers Split Spoons
[X] Electrical (i.e., utilities, lightning) (L (M) H) Overhead Electrical	[X] Pressure (i.e., gas cylinders, wells) (L (M) H) Hydraulic hose	[X] Environment (i.e., heat, cold, ice) (L (M) H) Hot, Sunny
[X] Chemical (i.e., fuel, acid, paint) (L (M) H) Unknown, fuel, Hydraulics, Silica	[X] Biological (i.e., ticks, poison ivy) (L (M) H) Ticks, Poison Ivy Mosquitos	[X] Radiation (i.e., alpha, sun, laser) (L (M) H) Sunny
[X] Sound (i.e., machinery, generators) (L (M) H) Split Spoons	[X] Personal (i.e. alone, night, not fit) (L (M) H) New personel	[X] Driving (i.e. car, ATV, boat, dozer) (L (M) H) Watch for unexpected Trucks

Continue TRACK Process on Page 2

TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes.

- [X] **STOP WORK AUTHORITY** (Must be addressed in every Tailgate meeting - (*See statements below*)

[ ] Elimination	[ ] Substitution	[ ] Isolation
[ ] Engineering controls	[ ] Administrative controls	[X] Monitoring RED Breathy sphere
[X] General PPE Usage	[X] Hearing Conservation	[ ] Respiratory Protection
[X] Personal Hygiene	[ ] Exposure Guidelines	[X] Decon Procedures
[X] Emergency Action Plan (EAP)	[ ] Fall Protection	[X] Work Zones/Site Control
[ ] JLA to be developed/used ***(specify)***	[ ] LPO conducted ***(specify job/JLA)***	[ ] Traffic Control
		[ ] Other ***(specify)***

Signature and Certification Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign in Time	Initial & Sign out Time	I have read and understand the HASP
Jeff Braxton / ARCADIS /	JB 7:15	19:00	JB
Steve Lormitz / NDI /	0730	3:30SL	SL
Avery Vail / NDI /	0730	3:30SL	AV
Olivia Beaulieu/USACE/ OE RE	OB 0730	OB 1600	OB
Michael Cliggett / SERES /	MC 0730	MC 1845	MC

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3844.

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3844 and then Corp Legal at 1.720.344.3756.

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.9556 and Corp H&S at 1.720.344.3500

Visitor Name/Co - not involved in work

Rick Novak 9:10, 9:20
In Out

In Out

In Out

In Out

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB,** I will perform **TRACK**; and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:)

- [X] Lessons learned and best practices learned today: Stand Get attention of driller before approaching Rig
- [ ] Incidents that occurred today: None
- [ ] Any Stop Work interventions today? None
- [ ] Corrective/Preventive Actions needed for future work: None
- [ ] Any other H&S issues: None

Keep H&S 1st in all things

WorkCare - 1.800.455.6155
Near Loss Hotline - 1.866.242.4304

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (8/20/2020)

ONSITE DATE Thursday 8/20/2020

ONSITE RESOURCES

- 7:00 – 16:15 Nothnagle – Avery Wall and Steve Loranty
- 7:30 – 16:15 – USACE – Olivia Beaulieu
- 7:30 – 19:30 JV – Jeff Brayer (Arcadis) and Michael Cliggett (SERES)

COMPLETED ACTIVITIES

- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting prior to onsite activities. See attached form.
- Completed installation of MW9OB (overburden well)
  - Soil and QC samples submitted to laboratory.

NHFLA-MW9OB-A-AUG2020	0-0.4’ bgs (See Note 1)
NHFLA-MW9OB-B-AUG2020	1.4-3’ bgs (See Note 2)

  - Note 1: The monitoring well location MW9OB did not contain native material to collect for an ecological sample. The sample NHFLA-MW9OB-A-AUG2020 was collected 1.5’ north of the MW9OB monitoring well location.
  - Note 2: “Recent fill” consisting of concrete and asphalt from was observed from 0.4-1.4’ bgs. Top of weathered bedrock at was observed at 3’ bgs. The sample NHFLA-MW9OB-B-AUG2020 was collected below the “recent fill” and above the weathered bedrock.
  - No sheen or staining was observed in the soil cuttings. PID reading of 1.8 ppm 5-6’ bgs in shale.
  - Spoon refusal was encountered at 5’ bgs. Auger refusal was encountered at 11’ bgs.
  - Red rust staining observed at first water bearing zone a 5’ bgs.

MW9OB (Overburden Well)	
Overburden	0-3’ bgs
Weathered bedrock	3-11’ bgs
Top of competent bedrock (shale)	11’ bgs
First water bearing zone	5’ bgs
2” 10 slot screen (7’ of screen)	4-11’ bgs
Sand	3-4’bgs
Bentonite Seal	2-3’ bgs
Grout	0-2’ bgs

- Completed installation of MW7OB (overburden well)
  - Soil and QC samples submitted to laboratory.

NHFLA-MW7OB-A-AUG2020	0-0.5’ bgs (See Note 3)
NHFLA-MW7OB-B-AUG2020	1.2-3’ bgs
NHFLA-MW7OB-C-AUG2020	3-5’ bgs

- Note 3: “Recent fill” consisting of concrete, slag and grass was observed from 0.5-1.2’ bgs. The sample NHFLA-MW7OB-A-AUG2020 was collected from 0-0.5’ bgs.
- No sheen or staining was observed in the soil cuttings.
- Spoon refusal was encountered at 7’ bgs. Auger refusal was encountered at 11’ bgs.
- Red rust staining observed at first water bearing zone a 5’ bgs.

MW7OB (Overburden Well)	
Overburden	0-5’ bgs
Weathered bedrock	5-11’ bgs
Top of competent bedrock (shale)	11’ bgs
First water bearing zone	5’ bgs
2” 10 slot screen (7’ of screen)	4-11’ bgs
Sand	3-4’bgs
Bentonite Seal	2-3’ bgs
Grout	0-2’ bgs

PLANNED ACTIVITIES FOR 8/21/2020 - Perform installation of MW16.

Top Left - Drill rig setting up at MW9OB

Top Right - Sample collection at MW9OB

Bottom Left - Bentonite seal application at MW7OB

Bottom Right - Well completion at MW7OB with protective stickup casing. Includes labeled nonhazardous investigation derived waste drum for soil cuttings.

Additional photographs of core will be included in weekly summary report.

ARCADIS

Document Control Number:TGM - _____

TGM + *project number plus date as follows: xxxxxxxx.xxxx.xxxxx - dd/mm/year*

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: NIKE Hamburg BU 51/52		**Project Location:** Hamburg Highway Dept	
Date: 8-20-20	**Time:** 7:30	**Conducted by:** J. Bruder	**Signature/Title:** Geologist
Client: ACOE		**Client Contact:** ACOE	**Subcontractor companies:**

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1 Split Spoon Sample
2 Augering
3 - Decon Augers
4 - Set well
5 Sampling
6

Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations [X] If there are none, write "None" here:

If yes, describe them here:

How will they be controlled?

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
[ ] Not applicable		[ ] Working at Height		[ ] Confined Space	
[ ] Energy Isolation (LOTO)		[X] Excavation/Trenching	811 GAR	[ ] Hot Work	
[ ] Mechanical Lifting Ops		[X] Overhead & Buried Utilities	811 GAR	[ ] Other permit	

Discuss following questions (for some review previous day's post activities). **Check if yes :**

[ ] Incidents from day before to review?	[ ] Lessons learned from the day before?	[ ] Topics from Corp H&S to cover?
[X] Any corrective actions from yesterday?	[ ] Will any work deviate from plan?	[ ] Any Stop Work Interventions yesterday?
[ ] JLAs or procedures are available?	[ ] Field teams to "dirty" JLAs, as needed?	[ ] If deviations, notify PM & client
[X] Staff has appropriate PPE?	[ ] Staff knows Emergency Plan (EAP)?	[X] All equipment checked & OK?
		[X] Staff knows gathering points?

Comments: Keep a clean work area - Organization of equipment

Recognize the hazards (check all that are discussed) (Examples are provided) and **A**ssess the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

[X] Gravity (i.e., ladder, scaffold, trips) (L (M) H) Slip, Trip, Falls w/that	[X] Motion (i.e., traffic, moving water) (L (M) H) Yard traffic	[X] Mechanical (i.e., augers, motors) (L (M) H) Augers, SS, hammer
[X] Electrical (i.e., utilities, lightning) (L M H) Overhead	[X] Pressure (i.e., gas cylinders, wells) (L M H) Hydraulic	[X] Environment (i.e., heat, cold, ice) (L (M) H) Sunny
[X] Chemical (i.e., fuel, acid, paint) (L M H) Hydraulic Fluid	[X] Biological (i.e., ticks, poison ivy) (L (M) H) Mosquitos	[X] Radiation (i.e., alpha, sun, laser) (L (M) H) Sun
[X] Sound (i.e., machinery, generators) (L (M) H) Ear plugs	[ ] Personal (i.e. alone, night, not fit) (L M H)	[X] Driving (i.e. car, ATV, boat, dozer) (L (M) H) Watch for Yard Traffic

Continue TRACK Process on Page 2

TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes.

STOP WORK AUTHORITY (Must be addressed in every Tailgate meeting - *(See statements below)*

[X] Elimination	[ ] Substitution	[ ] Isolation
[ ] Engineering controls	[ ] Administrative controls	[X] Monitoring
[X] General PPE Usage	[X] Hearing Conservation	[ ] Respiratory Protection
[X] Personal Hygiene	[ ] Exposure Guidelines	[X] Decon Procedures
[ ] Emergency Action Plan (EAP)	[ ] Fall Protection	[X] Work Zones/Site Control
[ ] JLA to be developed/used ***(specify)***	[ ] LPO conducted ***(specify job/JLA)***	[ ] Traffic Control
[ ]	[ ]	[ ] Other ***(specify)***
[ ]	[ ]	[ ]

Signature and Certification Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign in Time	Initial & Sign out Time	I have read and understand the HASP
Jeff Brayer / ARCADIS /	JB 7:30	19:30 JB	JB
Steve Lorenty / NDL /	SL 0700	1615 SL	SL
Avery Wall / NDI /	AW 0703	1615 AW	AW
Michael Clingett / SERCO /	MC 0730	19:30 MC	MC
Olivia Beaulieu / USACE /	OB 0730	OB/6/15	OB

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3844.

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3844 and then Corp Legal at 1.720.344.3756.

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.9556 and Corp H&S at 1.720.344.3500

Visitor Name/Co - not involved in work

In	Out
In	Out
In	Out
In	Out

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB**, I will perform **TRACK**; and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain.)

- [ ] Lessons learned and best practices learned today: _____
- [ ] Incidents that occurred today: _____
- [ ] Any Stop Work interventions today? _____
- [ ] Corrective/Preventive Actions needed for future work: _____
- [ ] Any other H&S issues: _____

Keep H&S 1st in all things

WorkCare - 1.800.455.6155
Near Loss Hotline - 1.866.242.4304

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (8/21/2020)

ONSITE DATE Friday 8/21/2020

ONSITE RESOURCES
- 7:00 – 15:00 Nothnagle – Avery Wall and Steve Loranty
- 7:30 – 19:30 JV – Jeff Brayer (Arcadis) and Michael Cliggett (SERES)

COMPLETED ACTIVITIES
- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting prior to onsite activities. See attached form.
- Completed installation of MW16 (overburden well)
  - Soil and QC samples submitted to laboratory.

NHFLA-MW16-A-AUG2020	0.5-1' bgs (See note 1)
NHFLA-MW16-B-AUG2020	1-3' bgs (See note 2)
NHFLA-MW16-C-AUG2020	15-17' bgs (See note 3)

  - Note 1: Organics (vegetation) were observed from 0-.5 bgs. The surface sample was collected from 0.5-1' bgs, which consisted of silt and fine/medium gravel.
  - Note 2: Fill (concrete, slag, glass, gravel, wood chips) was observed from 1' to 14.5' bgs.
  - Note 3: Native materials were observed from 14.5 – 17' bgs.
  - No sheen or staining was observed in the soil cuttings. PID reading of 2 ppm in wood chips at 14' bgs
  - There was no recovery from 9-11' bgs. The spoon was clean and empty upon retrieval. Due to concrete present above and below the 9-11' bgs interval, the rig may have drilled through a void space in concrete blocks.
  - Spoon refusal was encountered at 21' bgs. Competent bedrock was not located within the 0-21' bgs interval.
  - Red rust staining observed at first water bearing zone a 17' bgs.

MW16 (Overburden Well)	
Overburden	0-17' bgs
Weathered bedrock	17'-21' bgs
Top of competent bedrock	Not present at 21' bgs (end of boring)
First water bearing zone	17' bgs
2" 10 slot screen (10' of screen)	11-21' bgs
Sand	9-11' bgs
Bentonite Seal	7-9' bgs
Grout	0-7' bgs

- Performed water level measurements

Well	Water Level	Depth to Bottom
MW1BR	2.94' bgs	21.61' bgs
MW1OB	2.86' bgs	11.68' bgs
MW5BR	0.65' bgs	37.8' bgs (soft bottom)
MW5OB	2.48' bgs	17.98' bgs
MW7BR	3.81' bgs	24.32 ' bgs
MW7OB	3.78' bgs	10.81' bgs
MW9BR	3.43' bgs	23.16' bgs
MW9OB	2.62' bgs	11.09' bgs

PLANNED ACTIVITIES FOR 8/24/2020 - Perform installation of MW10.

PHOTOGRAPHS

Drill rig setting up to perform split-spoon sampling at MW16.

PVC screen/riser installation at MW16.

Well completion at MW16 with protective stickup casing. Labeled nonhazardous drum containing soil cuttings.

Equipment blank sample collection from shovel used to collect surface sample at MW16.

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Additional photographs of core will be included in weekly summary report.

ARCADIS

Document Control Number: TGM - _____

TGM + *project number plus date as follows: xxxxxxxx.xxxx.xxxxx - dd/mm/year*

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: Hamburg NTKF Bu 51/52			**Project Location:** Hamburg Highway - Lakeville, NY
Date: 8-21-2020	**Time:** 7:30	**Conducted by:** J. Brafer	**Signature/Title:** Geologist
Client: ACOE		**Client Contact:** ACOE	**Subcontractor companies:** Holtwyk Drilling Inc

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1 Drill
2 Sample Soil (55 sample)
3 Mobilize Rig
4 Delon Augers
5 Set well
6

Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations ☐ If there are none, write "None" here: _____

If yes, describe them here: COVID-19 - All visitors as well

How will they be controlled? Maintain 6' Separation or use face mask

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
☐ Not applicable		☐ Working at Height		☐ Confined Space	
☐ Energy Isolation (LOTO)		☒ Excavation/Trenching	811/GPR	☐ Hot Work	
☐ Mechanical Lifting Ops		☒ Overhead & Buried Utilities	811/GPR	☐ Other permit	

Discuss following questions (for some review previous day's post activities). **Check if yes :**

☐ Incidents from day before to review?	☐ Lessons learned from the day before?	☐ Any Stop Work Interventions yesterday?
☐ Any corrective actions from yesterday?	☐ Will any work deviate from plan?	☐ If deviations, notify PM & client
☐ JLAs or procedures are available?	☐ Field teams to "dirty" JLAs, as needed?	☒ All equipment checked & OK?
☒ Staff has appropriate PPE?	☒ Staff knows Emergency Plan (EAP)?	☒ Staff knows gathering points?

☐ Topics from Corp H&S to cover?

Comments: Wear Sun Screen + Drink water - The Sun is Intense

Recognize the hazards (check all those that are discussed) (Examples are provided) and **A**ssess the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

☒ Gravity (i.e., ladder, scaffold, trips) (L (M) H) Slips, Trips, Falls	☒ Motion (i.e., traffic, moving water) (L (M) H) Very little traffic in Field	☒ Mechanical (i.e., augers, motors) (L (M) H) Augers, Spoons, Drilling
☒ Electrical (i.e., utilities, lightning) (L (M) H) No known electrical	☒ Pressure (i.e., gas cylinders, wells) (L (M) H) Ground water	☒ Environment (i.e., heat, cold, ice) (L (M) H) Warm
☒ Chemical (i.e., fuel, acid, paint) (L (M) H) Unknown, Handling Bottles	☒ Biological (i.e., ticks, poison ivy) (L M (H)) Ticks, Mosquitos	☒ Radiation (i.e., alpha, sun, laser) (L M (H)) Sun - Intense
☒ Sound (i.e., machinery, generators) (L (M) H) Rig Sound, use Earplugs	☐ Personal (i.e. alone, night, not fit) (L M H)	☒ Driving (i.e. car, ATV, boat, dozer) (L (M) H) Watch for Stumps

Continue TRACK Process on Page 2

TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes.

- [X] **STOP WORK AUTHORITY** (Must be addressed in every Tailgate meeting - (*See statements below*)
- [ ] Elimination
- [ ] Engineering controls
- [X] General PPE Usage
- [X] Personal Hygiene
- [ ] Emergency Action Plan (EAP)
- [ ] JLA to be developed/used ***(specify)***
- [ ] Substitution
- [ ] Administrative controls
- [X] Hearing Conservation
- [ ] Exposure Guidelines
- [ ] Fall Protection
- [ ] LPO conducted ***(specify job/JLA)***
- [ ] Isolation
- [X] Monitoring
- [ ] Respiratory Protection
- [X] Decon Procedures
- [X] Work Zones/Site Control
- [ ] Traffic Control
- [ ] Other ***(specify)***

Signature and Certification Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign in Time	Initial & Sign out Time	I have read and understand the HASP
Jeff Braver / ARCADIS /	JB 7:30	19:30 JB	JB
Steve Lovarik / NDI /	SL 0700	SL 3:00	SL
AVERY VOLL / NDI /	AV 0700	AV 3:0-	AV
Michael Cliggett / SERES /	MC 0730	19:30 MC	MC

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3844.

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3844 and then Corp Legal at 1.720.344.3756.

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.9556 and Corp H&S at 1.720.344.3500

Visitor Name/Co - not involved in work

In	Out
In	Out
In	Out
In	Out

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB,** I will perform **TRACK**; and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:)

- [ ] Lessons learned and best practices learned today: _____
- [ ] Incidents that occurred today: _____
- [ ] Any Stop Work interventions today? _____
- [ ] Corrective/Preventive Actions needed for future work: _____
- [ ] Any other H&S issues: _____

Keep H&S 1st in all things

WorkCare - 1.800.455.6155
Near Loss Hotline - 1.866.242.4304

WEEKLY FIELD SUMMARY

To:
Erin Kirby, USACE - New England

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

Date:
August 27, 2020

FUDS Project Number:
C02NY0079

Subject:

Nike BU 51/52 – Hamburg, NY – Weekly Field Summary (August 17, 2020 – August 21, 2020)

Onsite Personnel (See Daily Field Report for Individual Names and Times Onsite)

- JV (Arcadis/SERES): 8/17/2020 – 8/21/2020
- Nothnagle: 8/17/2020 – 8/21/2020
- USACE: 8/18/2020 – 8/20/2020

Completed Activities

- Installation of bedrock monitoring well MW1BR and overburden wells MW1OB, MW5OB, MW7OB, MW9OB, and MW16.
- A QAPP audit was completed on 8/18/2020.
- A round of water levels was collected on 8/21/2020.

Items Discussed

- On 8/17/2020, USACE and JV held a call to discuss the background sample locations presented in the QAPP. Due to the amount of land development and the presence of the Interstate 90 and lack of undeveloped land for a more suitable area for background sampling, the samples collected from the areas around the mitigation pond and athletic fields will be called 'reference' samples instead of 'background' samples. It was also agreed that, since the intent of the sampling is also for COPC screening, the data from these sample locations would be compared to published NYSDEC statewide background values for metals and PAHs. Care will be taken in the field to identify layers of fill or re-worked soil and avoid these intervals in the sampling if possible. The area surrounding each sample background/reference location will also be inspected for the presence of pressure treated lumber and asphalt.

Health and Safety

- Checked in with Town of Hamburg Buildings and Grounds daily.
- Completed H&S tailgate meetings daily prior to onsite activities.
- H&S Audit added COVID discussion to daily H&S tailgate meetings.
- Zero Lost-Time Accidents

Planned Activities

- Overburden well installation and soil sampling will continue the week of 8/24/2020.

Samples Collected August 17, 2020 – August 21, 2020

Sample Name	Depth Range	Date	VOC 8260C	SVOC 8270D	Hydrazine 8315A	Metals 6010C, 7471	Total Solids SM2540B	TOC Lloyd Kahn	Grain Size ASTMD422	Hex Cr 7196A	pH	QC
NHFLA-MW1OB-A-AUG2020	0-1' bgs	8/19/2020	1	1	1	1	1	1	1	1	1	
NHFLA-MW1OB-B-AUG2020	1-3' bgs	8/19/2020	1	1	1	1	1	1	1	1		NHFLA-TB2-AUG2020,
NHFLA-MW1OB-C-AUG2020	5-7' bgs	8/19/2020	1	1	1	1	1	1	1	1		NHFLA-EB2-AUG2020
NHFLA-MW5OB-A-AUG2020	0-1' bgs	8/18/2020	1	1	1	1	1	1	1	1	1	
NHFLA-MW5OB-B-AUG2020	1-3' bgs	8/18/2020	1	1	1	1	1	1	1	1		NHFLA-TB1-AUG2020,
NHFLA-MW5OB-C-AUG2020	15-17' bgs	8/18/2020	1	1	1	1	1	1	1	1		NHFLA-EB1-AUG2020
NHFLA-MW7OB-A-AUG2020	0-0.5' bgs	8/20/2020	1	1	1	1	1	1	1	1	1	
NHFLA-MW7OB-B-AUG2020	1.2-3' bgs	8/20/2020	1	1	1	1	1	1	1	1		
NHFLA-MW7OB-C-AUG2020	3-5' bgs	8/20/2020	1	1	1	1	1	1	1	1		
NHFLA-MW9OB-A-AUG2020	0-0.4' bgs	8/20/2020	1	1	1	1	1	1	1	1	1	NHFLA-TB3-AUG2020,
NHFLA-MW9OB-B-AUG2020	1.4-3' bgs	8/20/2020	1	1	1	1	1	1	1	1		NHFLA-EB3-AUG2020
NHFLA-MW16-A-AUG2020	0.5-1' bgs	8/21/2020	1	1	1	1	1	1	1	1	1	
NHFLA-MW16-B-AUG2020	1-3' bgs	8/21/2020	1	1	1	1	1	1	1	1		NHFLA-TB4-AUG2020,
NHFLA-MW16-C-AUG2020	15-17' bgs	8/21/2020	1	1	1	1	1	1	1	1		NHFLA-EB4-AUG2020

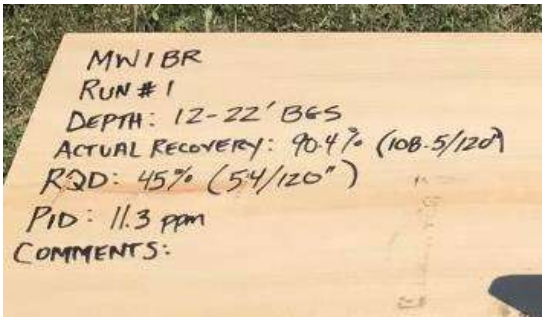
Investigation Derived Waste Generated August 11, 2020 – August 21, 2020

Date Generated	Location	# soil drums	# water drums
8/14/2020 - 8/18/2020	MW5BR/OB	3	2
8/12/2020-8/20/2020	MW7BR/OB	2	1
8/11/2020-8/20/2020	MW9BR/OB	2	2
8/13/2020	MW4BR	1	2
8/19/2020	MW1BR/OB	2	2
8/21/2020	MW16	1	-
TOTAL		11	9

Photographs

Photo 1 of 9 for MW1BR

Photo 2 of 9 for MW1BR



Photograph 3 of 9 for MW1BR

Photograph 4 of 9 for MW1BR

Photograph 5 of 9 for MW1BR

Photograph 6 of 9 for MW1BR

Photograph 7 of 9 for MW1BR

Photograph 8 of 9 for MW1BR

Photograph 9 of 9 for MW1BR and MW1OB

DAILY FIELD REPORT

SERES Engineering & Services, LLC
ARCADIS
a joint venture

To:
Erin Kirby, USACE - New England

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (8/24/2020)

ONSITE DATE Monday 8/24/2020

ONSITE RESOURCES
- 7:00 – 15:30 Nothnagle – Avery Wall and Steve Loranty
- 7:30 – 19:30 JV – Jeff Brayer (Arcadis)

COMPLETED ACTIVITIES
- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting prior to onsite activities. See attached form.
- Completed installation of MW2 (overburden well)
  - Soil and QC samples submitted to laboratory.

NHFLA-MW2-A-AUG2020	0-1′ bgs (See note 1)
NHFLA-MW2-B-AUG2020	1-3’ bgs (See note 2)

- Note 1: Silt and gravel in 0-1’ bgs.
- Note 2: Silt and clay with decomposed shale in 1-3’ bgs. Yellow rust like staining in fractures.
- Spoon refusal was encountered at 4.5’ bgs. Auger refusal was not encountered at end of boring at 12’ bgs.
- No sheen observed in the soil cuttings. PID reading of 226 ppm over top of augers with a petroleum/bituminous/asphalt like odor. PID reading of 0.0 ppm in breathing space.

MW2 (Overburden Well)	
Overburden	0-4.5’ bgs
Weathered bedrock	4.5’-12’ bgs
Top of competent bedrock	Not present at 12’ bgs (end of boring)
Water Level	5’ bgs
First water bearing zone	10-12’ bgs
2” 10 slot screen (8’ of screen)	4-12’ bgs
Sand	3-4’ bgs
Bentonite Seal	2-3’ bgs
Grout	0-2’ bgs

PLANNED ACTIVITIES FOR 8/24/2020 - Perform installation of MW10.

PHOTOGRAPHS

Drill rig setting up at MW10

Auguring to below ground surface at MW10

Split-spoon sample collected from MW10

Bentonite seal application at MW10

.

ARCADIS

Document Control Number:TGM - _____

TGM + *project number plus date as follows: xxxxxxxx.xxxx.xxxxx - dd/mm/year*

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: Hamburg NTKE Bu 51/52			**Project Location:** Hamburg Highway Dept
Date: 8-24-2020	**Time:** 7:30	**Conducted by:** J. Brayer	**Signature/Title:**
Client: ACOE		**Client Contact:** ACOE	**Subcontractor companies:** Northpeak Drilling

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1 Mobilize rig to site
2 Decon augers
3 Split Spoon Sample
4 Soil Sample
5 Set well
6

Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations ☐ If there are none, write "None" here: _____

If yes, describe them here: _____

How will they be controlled? _____

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
☐ Not applicable		☐ Working at Height		☐ Confined Space	
☐ Energy Isolation (LOTO)		☒ Excavation/Trenching	811/GPR	☐ Hot Work	
☐ Mechanical Lifting Ops		☒ Overhead & Buried Utilities	811 GPR	☐ Other permit	

Discuss following questions (for some review previous day's post activities). **Check if yes :**

☐ Incidents from day before to review?	☐ Lessons learned from the day before?	☐ Topics from Corp H&S to cover?
☐ Any corrective actions from yesterday?	☐ Will any work deviate from plan?	☐ Any Stop Work Interventions yesterday?
☐ JLAs or procedures are available?	☐ Field teams to "dirty" JLAs, as needed?	☐ If deviations, notify PM & client
☒ Staff has appropriate PPE?	☐ Staff knows Emergency Plan (EAP)?	☐ All equipment checked & OK?
		☐ Staff knows gathering points?

Comments: _____

Recognize the hazards (check all those that are discussed) (Examples are provided) and **A**ssess the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

☒ Gravity (i.e., ladder, scaffold, trips) (L M H) uneven ground, Rocks	☒ Motion (i.e., traffic, moving water) (L M H) Mowers	☒ Mechanical (i.e., augers, motors) (L M H) Augers, Drill Rigs
☒ Electrical (i.e., utilities, lightning) (L M H) None - All overhead - Not seen	☒ Pressure (i.e., gas cylinders, wells) (L M H) Hydraulic	☒ Environment (i.e., heat, cold, ice) (L M H) Hot Humid
☒ Chemical (i.e., fuel, acid, paint) (L M H) Bentonite	☒ Biological (i.e., ticks, poison ivy) (L M H) Ticks, Mosquitos	☒ Radiation (i.e., alpha, sun, laser) (L M H) Sun - wear sun screen
☒ Sound (i.e., machinery, generators) (L M H) Loud drilling, EE Something	☐ Personal (i.e. alone, night, not fit) (L M H)	☐ Driving (i.e. car, ATV, boat, dozer) (L M H)

Continue TRACK Process on Page 2

TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes.

[X] **STOP WORK AUTHORITY** (Must be addressed in every Tailgate meeting - *(See statements below)*

[ ] Elimination	[ ] Substitution	[ ] Isolation
[ ] Engineering controls	[ ] Administrative controls	[X] Monitoring
[X] General PPE Usage	[X] Hearing Conservation	[ ] Respiratory Protection
[X] Personal Hygiene	[ ] Exposure Guidelines	[X] Decon Procedures
[ ] Emergency Action Plan (EAP)	[ ] Fall Protection	[X] Work Zones/Site Control
[ ] JLA to be developed/used ***(specify)***	[ ] LPO conducted ***(specify job/JLA)***	[ ] Traffic Control
[ ]	[ ]	[ ] Other ***(specify)***
[ ]	[ ]	[ ]

Signature and Certification Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign in Time	Initial & Sign out Time	I have read and understand the HASP
Jeff Brayer / ARCADIS /	JB 7:30	7:30 JB	JB
Avery Vail / NDT /	AV 7:30	3:30 AV	AV
Steve Lowery / DOI /	SL 0730	3:35 SL	SL

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3844.

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3844 and then Corp Legal at 1.720.344.3756.

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.9556 and Corp H&S at 1.720.344.3500

Visitor Name/Co - not involved in work

In	Out
In	Out
In	Out
In	Out

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB,** I will perform **TRACK**; and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:)

- [ ] Lessons learned and best practices learned today: _____
- [ ] Incidents that occurred today: _____
- [ ] Any Stop Work interventions today? _____
- [ ] Corrective/Preventive Actions needed for future work: _____
- [ ] Any other H&S issues: _____

Keep H&S 1st in all things

WorkCare - 1.800.455.6155
Near Loss Hotline - 1.866.242.4304

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (8/25/2020)

ONSITE DATE Tuesday 8/25/2020

ONSITE RESOURCES
- 7:00 – 15:30 Nothnagle – Avery Wall and Steve Loranty
- 7:30 – 19:30 JV – Jeff Brayer (Arcadis)
- 7:30 – 19:00 JV – Chris Lo (Arcadis)

COMPLETED ACTIVITIES
- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting prior to onsite activities. See attached form.
- Completed installation of MW10 (overburden well)
  - Soil and QC samples submitted to laboratory.

NHFLA-MW10-A-AUG2020	0-1′ bgs (See note 1)
NHFLA-MW10-B-AUG2020	1-3’ bgs (See note 2)
NHFLA-MW10-C-AUG2020	3-4’ bgs (See note 3)

  - Note 1: Silt and gravel with some slag and concrete in 0-1’ bgs.
  - Note 2: Silt and clay with decomposed shale and some concrete in 1-3’ bgs.
  - Note 3: Slag, silt, clay, shale
  - Spoon refusal was encountered at 9’ bgs. Auger refusal was not encountered at end of boring at 14’ bgs. Wet cuttings observed at 12-14’ while drilling.
  - No sheen observed in the soil cuttings. PID reading of 0.3 ppm.
  - Protective casing installed over well.

MW10 (Overburden Well)	
Overburden	0-9 bgs
Weathered bedrock	9-14’ bgs
Top of competent bedrock	Not present at 14’ bgs (end of boring)
Water Level	10’ bgs
First water bearing zone	12-14’ bgs
2” 10 slot screen (10’ of screen)	4-14’ bgs
Sand	3-4’ bgs
Bentonite Seal	2-3’ bgs
Grout	0-2’ bgs

PLANNED ACTIVITIES FOR 8/26/2020 - Perform installation of MW15 and MW6.

PHOTOGRAPHS

Drill rig setting up at MW10

Auguring to below ground surface at MW10

Split-spoon sample collected from MW10

Bentonite seal application at MW10

ARCADIS

Document Control Number:TGM - _____
TGM + *project number plus date as follows: xxxxxxxx.xxxx.xxxxx - dd/mm/year*

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: Hamburg NIKE BU 51/52			**Project Location:** Hamburg NY
Date: 8-25-20	**Time:** 7:30	**Conducted by:** J. Brutu	**Signature/Title:** Jeff Ryan Geologist
Client: ACOE		**Client Contact:**	**Subcontractor companies:** Nothnagle Drilling

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1 Well Development
2 Mobilizing Rig
3 Set up Sampling Area
4 Advance SS, Soil Sample
5 Auger
6 Set well

Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations ☐ If there are none, write "None" here: _____

If yes, describe them here: _____

How will they be controlled? _____

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
☐ Not applicable		☐ Working at Height		☐ Confined Space	
☐ Energy Isolation (LOTO)		☒ Excavation/Trenching	811 GPR	☐ Hot Work	
☐ Mechanical Lifting Ops		☒ Overhead & Buried Utilities	811 GPR	☐ Other permit	

Discuss following questions (for some review previous day's post activities). **Check if yes :**

☐ Incidents from day before to review?	☐ Lessons learned from the day before?	☐ Topics from Corp H&S to cover?
☐ Any corrective actions from yesterday?	☒ Will any work deviate from plan?	☐ Any Stop Work Interventions yesterday?
☒ JLAs or procedures are available?	☐ Field teams to "dirty" JLAs, as needed?	☐ If deviations, notify PM & client
☒ Staff has appropriate PPE?	☒ Staff knows Emergency Plan (EAP)?	☒ All equipment checked & OK?
		☒ Staff knows gathering points?

Comments: Well development, and Emergency action plan if T-Storm arrive

Recognize the hazards (check all those that are discussed) (Examples are provided) and **A**ssess the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

☒ Gravity (i.e., ladder, scaffold, trips) (L M H) Wet grass, Slippery Footing	☒ Motion (i.e., traffic, moving water) (L M H) Unplanned, Unexpected Risks	☒ Mechanical (i.e., augers, motors) (L M H) Augers, Tooling work
☒ Electrical (i.e., utilities, lightning) (L M H) Overhead wires	☒ Pressure (i.e., gas cylinders, wells) (L M H) Hydraulic-water	☒ Environment (i.e., heat, cold, ice) (L M H) T-Storms Expected
☒ Chemical (i.e., fuel, acid, paint) (L M H) Bentonite, Hydraulic fluid	☒ Biological (i.e., ticks, poison ivy) (L M H) Mosquitos, Ticks	☒ Radiation (i.e., alpha, sun, laser) (L M H) Sun
☒ Sound (i.e., machinery, generators) (L M H) Loud SS Sampling Equipment	☐ Personal (i.e. alone, night, not fit) (L M H)	☒ Driving (i.e. car, ATV, boat, dozer) (L M H) Watch when driving in road

Continue TRACK Process on Page 2

TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes.

- [x] **STOP WORK AUTHORITY** (Must be addressed in every Tailgate meeting - (*See statements below*)
- [ ] Elimination
- [ ] Engineering controls
- [x] General PPE Usage
- [x] Personal Hygiene
- [ ] Emergency Action Plan (EAP)
- [ ] JLA to be developed/used ***(specify)***
- [ ] Substitution
- [ ] Administrative controls
- [x] Hearing Conservation
- [ ] Exposure Guidelines
- [ ] Fall Protection
- [ ] LPO conducted ***(specify job/JLA)***
- [ ] Isolation
- [x] Monitoring
- [ ] Respiratory Protection
- [x] Decon Procedures
- [x] Work Zones/Site Control
- [ ] Traffic Control
- [ ] Other ***(specify)***

Signature and Certification Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign in Time	Initial & Sign out Time	I have read and understand the HASP
Jeff Brazer / ARCADIS /	JB 7:30	19:30	JRB
Avery Wall / NDT /	AW 7:30	AW 3:30	AW
Shawhonst / NDT /	SL 0730	SL 3:30	SL
Christian Lo / SERES /	CL 0730	19:00	CL

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3844.

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3844 and then Corp Legal at 1.720.344.3756.

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.9556 and Corp H&S at 1.720.344.3500

Visitor Name/Co - not involved in work

In	Out
In	Out
In	Out
In	Out

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB,** I will perform **TRACK**; and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:)

- [x] Lessons learned and best practices learned today: Since one person is working away from the building they should keep watch for Lightly and Thunder
- [ ] Incidents that occurred today:
- [ ] Any Stop Work interventions today?
- [ ] Corrective/Preventive Actions needed for future work:
- [ ] Any other H&S issues:

Keep H&S 1st in all things

WorkCare - 1.800.455.6155
Near Loss Hotline - 1.866.242.4304

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (8/26/2020)

ONSITE DATE Wednesday 8/26/2020

ONSITE RESOURCES
- 7:00 – 15:30 Nothnagle – Avery Wall and Steve Loranty
- 7:30 – 18:45 JV – Jeff Brayer (Arcadis)
- 7:30 – 18:30 JV – Chris Lo (SERES)

COMPLETED ACTIVITIES
- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting prior to onsite activities. See attached form.
- Completed installation of MW15 (overburden well)
  - Soil and QC samples submitted to laboratory.

NHFLA-MW15-A-AUG2020	0-1’ bgs (See note 1)
NHFLA-MW15-B-AUG2020	1-3’ bgs (See note 2)
NHFLA-MW15-C-AUG2020	3-4.4’ bgs (See note 3)
NHFLA-DUP1-AUG2020	0-1' bgs MW15
NHFLA-MS1-AUG2020	0-1' bgs MW15
NHFLA-MSD1-AUG2020	0-1' bgs MW15
NHFLA-DUP1-AUG2020	1-3' bgs MW15
NHFLA-MS-AUG2020	1-3' bgs MW15
NHFLA-MSD2-AUG2020	1-3' bgs MW15

  - Note 1: Silt and gravel with some slag in 0-1’ bgs.
  - Note 2: Silt and clay with some shale and slag in 1-3’ bgs.
  - Note 3: Silt and clay with some shale in 3-4.4’ bgs.
  - Spoon refusal was encountered at 5’ bgs. Auger refusal was encountered at 11’ bgs.
  - No sheen, odor or elevate PID readings observed in the soil cuttings.
  - Well was dry until bottom of boring was reached.

MW15 (Overburden Well)	
Overburden	0-4.4’ bgs
Shale	4.4 -5’ bgs
Weathered bedrock	5 – 11 ’ bgs
Top of competent bedrock	11’ bgs
First water bearing zone	11’ bgs
2” 10 slot screen (7’ of screen)	4-11’ bgs
Sand	3-4’ bgs
Bentonite Seal	2-3’ bgs
Grout	0-2’ bgs

- Completed installation of MW6 (overburden well)
  - Soil and QC samples submitted to laboratory.

NHFLA-MW6-A-AUG2020	0-1' bgs (See note 1)
NHFLA-MW6-B-AUG2020	1-3' bgs (See note 2)

  - Note 1: Silt and gravel with trace slag in 0-1' bgs.
  - Note 2: Silt and clay with some laminated shale in 1-3' bgs. Yellow rust staining in shale laminations in shoe (bottom of split spoon).
  - Very Fractured and very weathered shale from 3-4' bgs. No sheen or staining observed; however, a petroleum like odor with a PID reading of 16 ppm was observed in soil cuttings.
  - Spoon refusal was encountered at 4' bgs. Auger refusal was not at encountered at 11' bgs.
  - Well was dry until bottom of boring was reached. Well was left to recharge overnight and on 8/27/2020 the water level at 3' bgs,

MW6 (Overburden Well)	
Overburden	0-4.4' bgs
Shale	4.4 -5' bgs
Weathered bedrock	5 – 11 ' bgs
Top of competent bedrock	Not present at 11' bgs (end of boring)
First water bearing zone	fractured bedrock zone
2" 10 slot screen (7' of screen)	4-11' bgs
Sand	3-4' bgs
Bentonite Seal	2-3' bgs
Grout	0-2' bgs

PLANNED ACTIVITIES FOR 8/27/2020 - Perform installation of MW13.

PHOTOGRAPHS

Auger set up at MW 6

Augering below ground surface at MW 6.

Split-spoon sample collected from MW15


Packed cooler with samples


Well completion at MW6 with protective stick-up casing and one drum of non-haz soil cuttings.

ARCADIS

Document Control Number:TGM - _____
TGM + *project number plus date as follows: xxxxxxxx.xxxx.xxxxx - dd/mm/year*

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: Hamburg NERE BU/51152			**Project Location:** Hamburg Highway Dept
Date: 8-26-10	**Time:** 7:30	**Conducted by:** J Brake	**Signature/Title:**
Client: ACOE		**Client Contact:** ACOE	**Subcontractor companies:** Nothnagle Drilling Inc (NDE)

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1 Mobilizing Rig
2 Split spoon Advancing
3 Soil Sampling/Logging Boring
4 Setting well
5 Decon augers
6 Collecting Samples

Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations [X] If there are none, write "None" here: _____

If yes, describe them here: Police Shooting Range is active, Work in Stock Yard

How will they be controlled? _____

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
[ ] Not applicable		[ ] Working at Height		[ ] Confined Space	
[ ] Energy Isolation (LOTO)		[X] Excavation/Trenching	811/ERR	[ ] Hot Work	
[ ] Mechanical Lifting Ops		[X] Overhead & Buried Utilities	811/ERR	[ ] Other permit	

Discuss following questions (for some review previous day's post activities). **Check if yes :**

[ ] Incidents from day before to review?	[X] Lessons learned from the day before?	[ ] Topics from Corp H&S to cover?
[ ] Any corrective actions from yesterday?	[ ] Will any work deviate from plan?	[ ] Any Stop Work Interventions yesterday?
[X] JLAs or procedures are available?	[ ] Field teams to "dirty" JLAs, as needed?	[ ] If deviations, notify PM & client
[X] Staff has appropriate PPE?	[X] Staff knows Emergency Plan (EAP)?	[X] All equipment checked & OK?
		[X] Staff knows gathering points?

Comments: _____

Recognize the hazards (check all those that are discussed) (Examples are provided) and **A**ssess the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

[X] Gravity (i.e., ladder, scaffold, trips) (L (M) H) Wet Grass, Tripping Hazards	[X] Motion (i.e., traffic, moving water) (L (M) H) Unexpected Movement of Augers	[X] Mechanical (i.e., augers, motors) (L (M) H)
[X] Electrical (i.e., utilities, lightning) (L (M) H) Overhead power	[X] Pressure (i.e., gas cylinders, wells) (L M H)	[X] Environment (i.e., heat, cold, ice) (L M (H)) Warm, T-Storms Expected
[X] Chemical (i.e., fuel, acid, paint) (L M H) Bentonite	[X] Biological (i.e., ticks, poison ivy) (L M (H)) Mosquitos - Near Hills	[X] Radiation (i.e., alpha, sun, laser) (L M H) Sun - wear Sun Screen
[X] Sound (i.e., machinery, generators) (L (M) H) SS Sampling Wear Ear Protection	[X] Personal (i.e. alone, night, not fit) (L M H)	[X] Driving (i.e. car, ATV, boat, dozer) (L (M) H) Driving in Stock Yard

Continue TRACK Process on Page 2

TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes.

- [x] **STOP WORK AUTHORITY** (Must be addressed in every Tailgate meeting - (*See statements below*)
- [ ] Elimination
- [ ] Engineering controls
- [x] General PPE Usage Boots, Gloves, Eye, Hi-Vis
- [x] Personal Hygiene Wash Hands & Eating + Drinking
- [ ] Emergency Action Plan (EAP)
- [ ] JLA to be developed/used ***(specify)***
- [ ] Substitution
- [ ] Administrative controls
- [x] Hearing Conservation
- [ ] Exposure Guidelines
- [ ] Fall Protection
- [ ] LPO conducted ***(specify job/JLA)***
- [ ] Isolation
- [x] Monitoring PID
- [x] Respiratory Protection COVID-19
- [x] Decon Procedures Alcorx
- [x] Work Zones/Site Control - Blocking work track
- [x] ~~Traffic Control~~
- [ ] Other ***(specify)***

Signature and Certification Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign in Time	Initial & Sign out Time	I have read and understand the HASP
Jeff Baxter / ARCADIS /	JB 7:30	JB 18:45	JB
Steve Lorentz / NDOT /	SL 730	SL 330	SL
Avery Wall / NDOT /	AW 730	AW 330	AW
Christian Co / Seecs /	CL 7:30	CL 1830	CL

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3844.

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3844 and then Corp Legal at 1.720.344.3756.

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.9556 and Corp H&S at 1.720.344.3500

Visitor Name/Co - not involved in work

In	Out
In	Out
In	Out
In	Out

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB,** I will perform **TRACK**, and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:)

- [ ] Lessons learned and best practices learned today:
- [ ] Incidents that occurred today:
- [ ] Any Stop Work interventions today?
- [ ] Corrective/Preventive Actions needed for future work:
- [ ] Any other H&S issues:

Keep H&S 1st in all things

WorkCare - 1.800.455.6155
Near Loss Hotline - 1.866.242.4304

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (8/27/2020)

ONSITE DATE Thursday 8/27/2020

ONSITE RESOURCES
- 7:00 – 14:00 Nothnagle – Avery Wall and Steve Loranty
- 7:30 – 15:45 JV – Jeff Brayer (Arcadis)
- 7:30 – 15:30 JV – Chris Lo (SERES)

COMPLETED ACTIVITIES
- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting prior to onsite activities. See attached form.
- Completed installation of MW13 (overburden well)
  - Soil and QC samples submitted to laboratory.

NHFLA-MW13-A-AUG2020	0-1’ bgs
NHFLA-MW13-B-AUG2020	1-3’ bgs
NHFLA-MW13-C-AUG2020	3.5-5.5’ bgs

  - Spoon refusal was encountered at 7’ bgs. Auger refusal was not encountered at 11’ bgs.
  - No sheen, odor or elevated PID readings observed in the soil cuttings.
  - A tar-like substance was observed from 3-3.3’ bgs.

MW13 (Overburden Well)	
Overburden	0-4.4’ bgs
Weathered bedrock	5.5-11’ bgs
Top of competent bedrock	Not present at 11’ bgs (end of boring)
First water bearing zone	7’ bgs
2” 10 slot screen (7’ of screen)	4-11’ bgs
Sand	3-4’ bgs
Bentonite Seal	2-3’ bgs
Grout	0-2’ bgs

PLANNED ACTIVITIES FOR 8/28/2020
- Mobilize Bobcat to the site and transport drums to central staging area behind the salt barn
- Arcadis to train SERES on well development.
- Nothnagle to finish setting concrete around wells.

PHOTOGRAPHS

Split-spoon sample retrieval at MW13

Fractured bedrock in split-spoon sample

Filter pack installation (#00 silica) at MW13

Well completion at MW13 with protective stick-up casing. Includes labeled non-hazardous investigation derived waste drum for soil cuttings.

ARCADIS

Document Control Number: TGM - _____

TGM + *project number plus date as follows: xxxxxxxx.xxxx.xxxxx - dd/mm/year*

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: NHE Hamburg Bu 51/52		**Project Location:** Hamburg Highway Dept	
Date: 8-27-20	**Time:** 7:30	**Conducted by:** J. Brazier	**Signature/Title:**
Client: ACOE	**Client Contact:** ACOE	**Subcontractor companies:** Nothnagle Drilling Inc	

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1 Mobilize Rig
2 Split-spoon Boring
3 Soil Sampling
4 Set well
5 Decon Augers
6 Collect Gw Samples

Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations ☐ If there are none, write "None" here: _____

If yes, describe them here: Police Shooting Range is active - Can't approach when Red flag is flying

How will they be controlled? Communication w/ Shooting Range master

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
☐ Not applicable		☐ Working at Height		☐ Confined Space	
☐ Energy Isolation (LOTO)		☐ Excavation/Trenching		☐ Hot Work	
☐ Mechanical Lifting Ops		☐ Overhead & Buried Utilities		☐ Other permit	

Discuss following questions (for some review previous day's post activities). **Check if yes :**

☐ Incidents from day before to review?	☒ Lessons learned from the day before?	☐ Topics from Corp H&S to cover?
☐ Any corrective actions from yesterday?	☐ Will any work deviate from plan?	☐ Any Stop Work Interventions yesterday?
☒ JLAs or procedures are available?	☐ Field teams to "dirty" JLAs, as needed?	☒ If deviations, notify PM & client
☒ Staff has appropriate PPE?	☒ Staff knows Emergency Plan (EAP)?	☒ All equipment checked & OK?
		☒ Staff knows gathering points?

Comments: 30/30 Thunder/Lightning Risk

Recognize the hazards (check all those that are discussed) (Examples are provided) and **A**ssess the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category

☒ Gravity (i.e., ladder, scaffold, trips) (L (M) H) Wet Grass, Trip Hazards	☐ Motion (i.e., traffic, moving water) (L M H) unexpected movement/Hand	☒ Mechanical (i.e., augers, motors) (L (M) H) Augers, spears
☒ Electrical (i.e., utilities, lightning) (L M H) Overhead Power	☒ Pressure (i.e., gas cylinders, wells) (L M H) Ht Hands	☒ Environment (i.e., heat, cold, ice) (L (M) H) Warm-Humid Severe T-Storms
☒ Chemical (i.e., fuel, acid, paint) (L M H) Bentonite	☒ Biological (i.e., ticks, poison ivy) (L (M) H) Mosquitoes,	☒ Radiation (i.e., alpha, sun, laser) (L M H) Sun-Wear Sun Screen
☒ Sound (i.e., machinery, generators) (L M H) SS Sampling (wear Ear Pro)	☐ Personal (i.e. alone, night, not fit) (L M H)	☒ Driving (i.e. car, ATV, boat, dozer) (L M H) Driving on Site

Continue TRACK Process on Page 2

TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes.

- [X] **STOP WORK AUTHORITY** (Must be addressed in every Tailgate meeting - (*See statements below*)
- [ ] Elimination
- [ ] Engineering controls
- [X] General PPE Usage Boots(ST) Hard
- [X] Personal Hygiene Glasses Wash Hands
- [ ] Emergency Action Plan (EAP)
- [ ] JLA to be developed/used ***(specify)***
- [ ] Substitution
- [ ] Administrative controls
- [ ] Hearing Conservation
- [ ] Exposure Guidelines
- [ ] Fall Protection
- [ ] LPO conducted ***(specify job/JLA)***
- [ ] Isolation
- [X] Monitoring PID
- [X] Respiratory Protection — Cartridge
- [ ] Decon Procedures Alconox
- [ ] Work Zones/Site Control Blocker Truck
- [ ] Traffic Control
- [ ] Other ***(specify)***

Signature and Certification Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign In Time	Initial & Sign out Time	I have read and understand the HASP
Jeff Baxter / ARCADIS /	JB 7:30	JB 15:45	JB
Steve Lovely / NDI /	SL 0723	SL 1400	SL
Avery Wall / NDI /	AW 0730	AW 1400	AW
Christian Lo / SERES /	CL 0730	CL 1530	C.L.

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3844.

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3844 and then Corp Legal at 1.720.344.3756.

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.9556 and Corp H&S at 1.720.344.3500

Visitor Name/Co - not involved in work

In	Out
In	Out
In	Out
In	Out

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB,** I will perform **TRACK**; and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:)

- [ ] Lessons learned and best practices learned today: _____
- [ ] Incidents that occurred today: _____
- [ ] Any Stop Work interventions today? _____
- [ ] Corrective/Preventive Actions needed for future work: _____
- [ ] Any other H&S issues: _____

Keep H&S 1st in all things

WorkCare - 1.800.455.6155
Near Loss Hotline - 1.866.242.4304

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (8/28/2020)

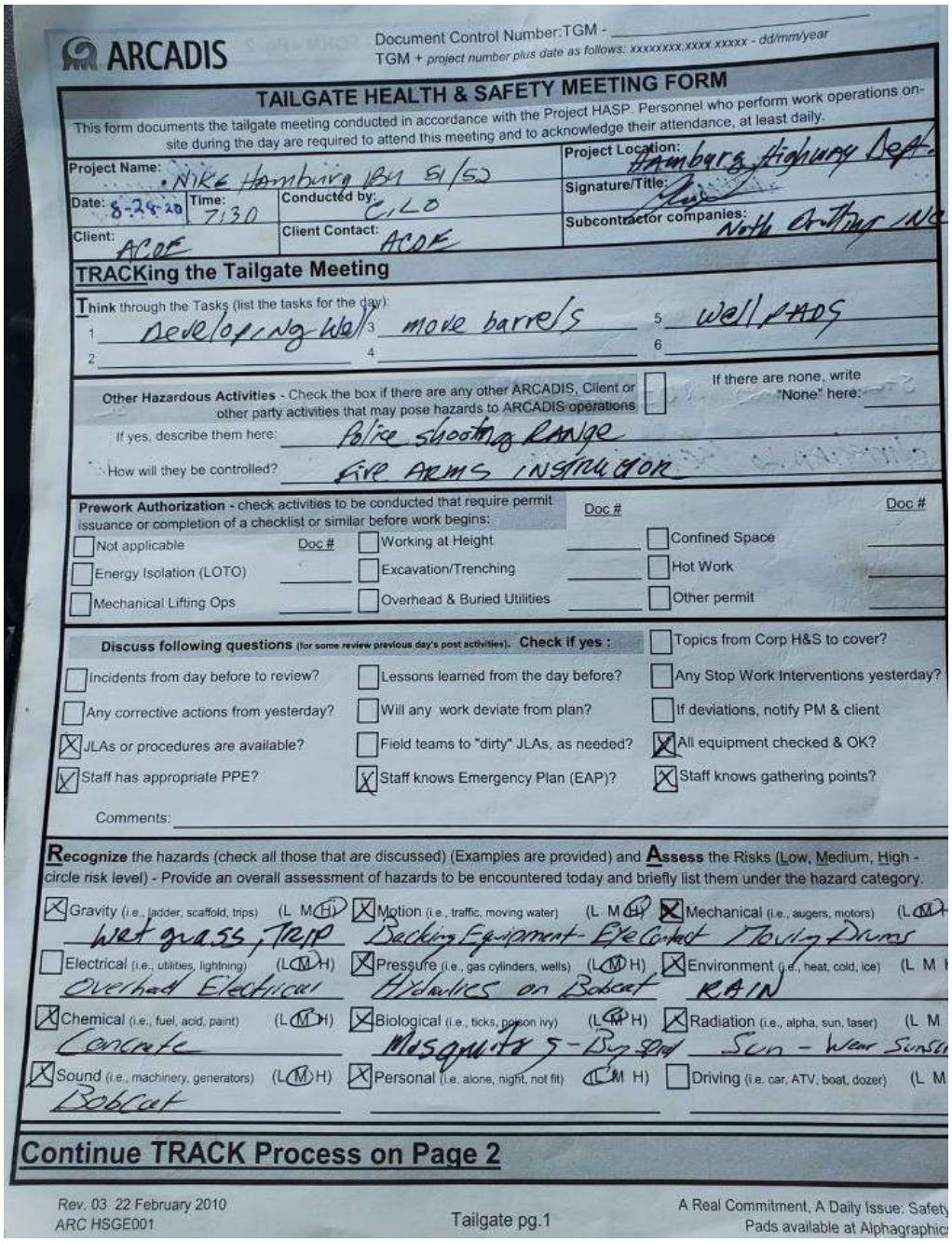
ONSITE DATE Friday 8/28/2020

ONSITE RESOURCES
- 6:30 – 14:30 Nothnagle – Avery Wall and Steve Loranty
- 7:30 – 15:30 JV – Chris Lo (SERES)

COMPLETED ACTIVITIES
- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting prior to onsite activities. See attached form.
- Mobilized Bobcat to the site and transported drums to central staging area behind the salt barn.
- JV began well development on MW7, MW9, MW10.
- Nothnagle set concrete around installed wells.

PLANNED ACTIVITIES FOR 8/31/2020 - Perform installation of MW3.

SERES Engineering & Services, LLC
ARCADIS
a joint venture



ARCADIS

Document Control Number:TGM - _____
TGM + project number plus date as follows: xxxxxxxx.xxxx xxxxx - dd/mm/year

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: Nike Hamburg BU 51/52	Project Location: Hamburg Highway Dept.
Date: 8-28-20 Time: 7:30 Conducted by: C.L.O	Signature/Title:
Client: ACOE Client Contact: ACOE	Subcontractor companies: North Country WC

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1. developing well
2. _____
3. move barrels
4. _____
5. well pads
6. _____

Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations ☐ If there are none, write "None" here: _____

If yes, describe them here: Police shooting Range

How will they be controlled? Fire Arms instruction

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
☐ Not applicable		☐ Working at Height		☐ Confined Space	
☐ Energy Isolation (LOTO)		☐ Excavation/Trenching		☐ Hot Work	
☐ Mechanical Lifting Ops		☐ Overhead & Buried Utilities		☐ Other permit	

Discuss following questions (for some review previous day's post activities). **Check if yes :**

☐ Incidents from day before to review?	☐ Lessons learned from the day before?	☐ Topics from Corp H&S to cover?
☐ Any corrective actions from yesterday?	☐ Will any work deviate from plan?	☐ Any Stop Work Interventions yesterday?
☒ JLAs or procedures are available?	☐ Field teams to "dirty" JLAs, as needed?	☐ If deviations, notify PM & client
☒ Staff has appropriate PPE?	☒ Staff knows Emergency Plan (EAP)?	☒ All equipment checked & OK?
		☒ Staff knows gathering points?

Comments: _____

Recognize the hazards (check all those that are discussed) (Examples are provided) and **A**ssess the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

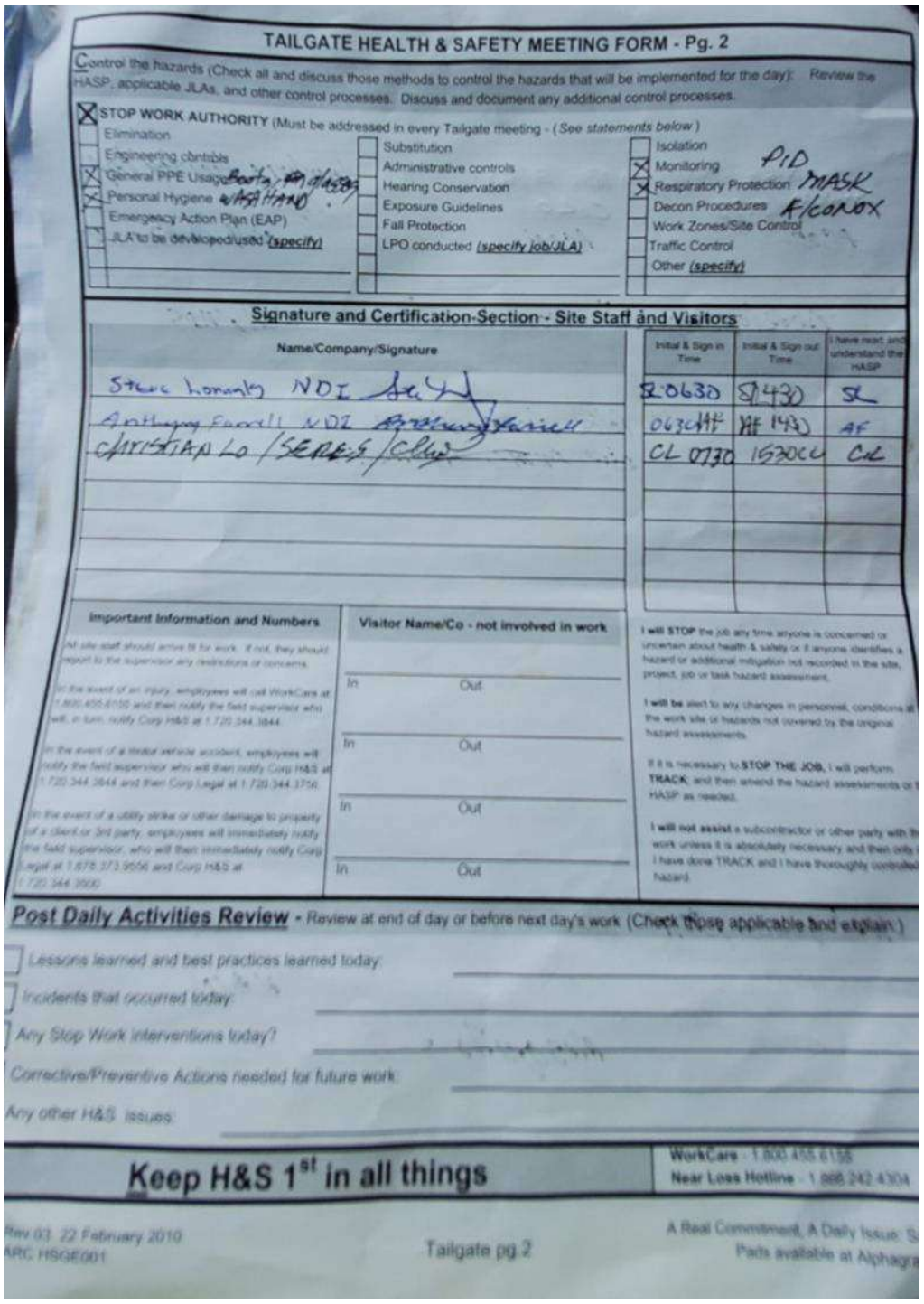
☒ Gravity (i.e., ladder, scaffold, trips) (L M H) wet grass, Trip	☒ Motion (i.e., traffic, moving water) (L M H) Backing Equipment - Ele Contact	☒ Mechanical (i.e., augers, motors) (L M H) Moving Drums
☐ Electrical (i.e., utilities, lightning) (L M H) Overhead Electrical	☒ Pressure (i.e., gas cylinders, wells) (L M H) Hydraulics on Bobcat	☒ Environment (i.e., heat, cold, ice) (L M H) RAIN
☒ Chemical (i.e., fuel, acid, paint) (L M H) Concrete	☒ Biological (i.e., ticks, poison ivy) (L M H) Mosquito's - Big Deal	☒ Radiation (i.e., alpha, sun, laser) (L M H) Sun - Wear Sunscr
☒ Sound (i.e., machinery, generators) (L M H) Bobcat	☒ Personal (i.e. alone, night, not fit) (L M H)	☐ Driving (i.e. car, ATV, boat, dozer) (L M H)

Continue TRACK Process on Page 2

Rev. 03 22 February 2010
ARC HSGE001

Tailgate pg.1

A Real Commitment, A Daily Issue: Safety Pads available at Alphagraphics



TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes.

- [x] STOP WORK AUTHORITY (Must be addressed in every Tailgate meeting - (See statements below)
- [ ] Elimination
- [ ] Engineering controls
- [x] General PPE Usage Boots, FR clothing
- [x] Personal Hygiene WASH HAND
- [ ] Emergency Action Plan (EAP)
- [ ] JLA to be developed/used (specify)
- [ ] Substitution
- [ ] Administrative controls
- [ ] Hearing Conservation
- [ ] Exposure Guidelines
- [ ] Fall Protection
- [ ] LPO conducted (specify job/JLA)
- [ ] Isolation
- [x] Monitoring PID
- [x] Respiratory Protection MASK
- [ ] Decon Procedures
- [ ] Work Zones/Site Control
- [ ] Traffic Control
- [ ] Other (specify)

Signature and Certification-Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign in Time	Initial & Sign out Time	I have read, and understand the HASP
Steve Horanky NDI	0630	1430	SH
Anthony Farrell NDI	0630	1430	AF
CHRISTIAN LO / SERES / CLO	CL 0730	1530	CL

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3844.

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3844 and then Corp Legal at 1.720.344.3756.

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.9556 and Corp H&S at 1.720.344.3500.

Visitor Name/Co - not involved in work

In	Out

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to STOP THE JOB, I will perform TRACK and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with the work unless it is absolutely necessary and then only if I have done TRACK and I have thoroughly controlled the hazard.

Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain.)

- [ ] Lessons learned and best practices learned today:
- [ ] Incidents that occurred today:
- [ ] Any Stop Work interventions today?
- [ ] Corrective/Preventive Actions needed for future work:
- [ ] Any other H&S issues:

Keep H&S 1st in all things

WorkCare - 1.800.455.6155
Near Loss Hotline - 1.866.242.4304

Rev 03 22 February 2010
ARC HSGE001

Tailgate pg 2

A Real Commitment, A Daily Issue. S
Pads available at Alphagr

WEEKLY FIELD SUMMARY

To:
Erin Kirby, USACE - New England

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

Date:
September 2, 2020

FUDS Project Number:
C02NY0079

Subject:

Nike BU 51/52 – Hamburg, NY – Weekly Field Summary (August 24, 2020 – August 28, 2020)

Onsite Personnel (See Daily Field Report for Individual Names and Times Onsite)

- JV (Arcadis): 8/24/2020 – 8/27/2020
- JV (SERES): 8/25/2020 – 8/28/2020
- Nothnagle: 8/24/2020 – 8/28/2020

Completed Activities

- Installation of overburden wells MW2, MW6, MW10, MW13, and MW16 with associated soil samples.
- Began well development of MW7, MW9, MW10.

Items Discussed

- QAPP will be finalized by 9/11/2020.
- Chain of custody with lab signature will be uploaded within 5 days of sampling.

Health and Safety

- Checked in with Town of Hamburg Buildings and Grounds daily.
- Completed H&S tailgate meetings daily prior to onsite activities.
- Zero Lost-Time Accidents
- SERES followed New York State Travel Advisory Protocol and worked independently until negative COVID test was received.

Planned Activities

- Overburden well installation and soil sampling will continue the week of 8/31/2020.
- Well development will continue the week of 8/31/2020.

SERES Engineering & Services, LLC
ARCADIS
a joint venture

Samples Collected August 24, 2020 – August 28, 2020

Sample Name	Depth Range	Date	VOC 8260C	SVOC 8270D	Hydrazine 8315A	Metals 6010C, 7471	Total Solids SM2540B	TOC Lloyd Kahn	Grain Size ASTMD422	Hex Cr 7196A	pH	QC
NHFLA-MW2-A-AUG2020	0-1' bgs	8/24/2020	1	1	1	1	1	1	1	1	1	NHFLA-TB5-AUG2020, NHFLA-EB5-AUG2020
NHFLA-MW2-B-AUG2020	1-3' bgs	8/24/2020	1	1	1	1	1	1	1	1		
NHFLA-MW10-A-AUG2020	0-1' bgs	8/25/2020	1	1	1	1	1	1	1	1	1	
NHFLA-MW10-B-AUG2020	1-3' bgs	8/25/2020	1	1	1	1	1	1	1	1		NHFLA-TB6-AUG2020, NHFLA-EB6-AUG2020
NHFLA-MW10-C-AUG2020	3-4' bgs	8/25/2020	1	1	1	1	1	1	1	1		
NHFLA-DUP1-AUG2020	0-1' bgs MW15	8/26/2020	1	1	1	1	1	1	1	1	1	
NHFLA-DUP1-AUG2020	1-3' bgs MW15	8/26/2020	1	1	1	1	1	1	1	1		
NHFLA-MS1-AUG2020	0-1' bgs MW15	8/26/2020	1	1	1	1	1	1	1	1		
NHFLA-MS-AUG2020	1-3' bgs MW15	8/26/2020	1	1	1	1	1	1	1	1		
NHFLA-MSD1-AUG2020	0-1' bgs MW15	8/26/2020	1	1	1	1	1	1	1	1		
NHFLA-MSD2-AUG2020	1-3' bgs MW15	8/26/2020	1	1	1	1	1	1	1	1		
NHFLA-MW15-A-AUG2022	0-1' bgs	8/26/2020	1	1	1	1	1	1	1	1	1	
NHFLA-MW15-B-AUG2023	1-3' bgs	8/26/2020	1	1	1	1	1	1	1	1		
NHFLA-MW15-C-AUG2024	3-4.4' bgs	8/26/2020	1	1	1	1	1	1	1	1		
NHFLA-MW6-A-AUG2020	0-1' bgs	8/26/2020	1	1	1	1	1	1	1	1	1	NHFLA-TB7-AUG2020, NHFLA-EB7-AUG2020
NHFLA-MW6-B-AUG2020	1-3' bgs	8/26/2020	1	1	1	1	1	1	1	1		
NHFLA-MW13-A-AUG2021	0-1' bgs	8/27/2020	1	1	1	1	1	1	1	1	1	NHFLA-TB8-AUG2020, NHFLA-EB8-AUG2020
NHFLA-MW13-B-AUG2022	1-3' bgs	8/27/2020	1	1	1	1	1	1	1	1		
NHFLA-MW13-C-AUG2023	3.5-5.5' bgs	8/27/2020	1	1	1	1	1	1	1	1		

Investigation Derived Waste Generated August 24, 2020 – August 28, 2020

Date Generated	Location	# soil drums
8/24/2020	MW2	1
8/25/2020	MW10	1
8/26/2020	MW15	1
8/26/2020	MW6	1
8/272020	MW13	1
TOTAL		5

*Well development drums will be noted in the next weekly report.

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (9/1/2020)

ONSITE DATE Tuesday 9/1/2020

ONSITE RESOURCES
- 7:00 – 15:30 Nothnagle – Avery Wall and Steve Loranty
- 7:30 – 19:30 JV – Jeff Brayer (Arcadis), Chris Lo (SERES)

COMPLETED ACTIVITIES
- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting prior to onsite activities. See attached form.
- Completed installation of MW8 (overburden well)
  - Soil and QC samples submitted to laboratory.

NHFLA-MW8-A-SEP2020	0-1’ bgs
NHFLA-MW8-B-SEP2020	1-3’ bgs
NHFLA-DUP5-SEP2020	1-3’ bgs

  - Spoon refusal was encountered at 5’ bgs. Auger refusal was not encountered at end of boring at 11’ bgs.
  - No sheen, discoloration or elevated PID readings observed in the soil cuttings.

MW8 (Overburden Well)	
Overburden	0-5’ bgs
Weathered bedrock	5-11’ bgs
Top of competent bedrock	Not present at 11’ bgs (end of boring)
First water bearing zone	8-11’ bgs
2” 10 slot screen (7’ of screen)	4-11’ bgs
Sand	3-4’ bgs
Bentonite Seal	2-3’ bgs
Grout	0-2’ bgs

- Completed installation of MW4OB (overburden well)
  - Soil and QC samples submitted to laboratory.

NHFLA-4OB-A-SEP2020	0-1’ bgs
NHFLA-4OB-B-SEP2020	1-3’ bgs

  - Spoon refusal was encountered at 3’ bgs. Auger refusal was not encountered at end of boring at 12.5’ bgs.
  - No sheen, discoloration or elevated PID readings observed in the soil cuttings.

MW4OB (Overburden Well)	
Overburden	0-3’ bgs
Weathered bedrock	3-12.5’ bgs
Top of competent bedrock	Not present at 12.5’ bgs (end of boring)
First water bearing zone	11-12’ bgs
2” 10 slot screen (7’ of screen)	4.5-12.5’ bgs
Sand	3-4.5’ bgs
Bentonite Seal	2-3’ bgs
Grout	0-2’ bgs

PLANNED ACTIVITIES FOR 9/2/2020 - Perform installation of MW14

PHOTOGRAPHS

MW-8 Drilling

Weathered Bedrock at MW-8


Drilling at MW-4OB

MW-4OB Split Spoon sample

ARCADIS

Document Control Number:TGM - _____
TGM + *project number plus date as follows: xxxxxxxx.xxxx.xxxxx - dd/mm/year*

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: NIKE Base Bu 31/32			**Project Location:** Hornburg Hwy Depot
Date: 9-1-20	**Time:** 7:30	**Conducted by:** J. Bayer	**Signature/Title:**
Client: ACOE		**Client Contact:** ACOE	**Subcontractor companies:** Nothnagle Drilling

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1 Mobilize Rig to Boring 3 Soil Sample 5 Pack Samples
2 Set up Sampling Ext 4 Decon augers 6

Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations [X] If there are none, write "None" here:

If yes, describe them here: Gun Range was not active - Gauge wells

How will they be controlled?

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
[ ] Not applicable		[ ] Working at Height		[ ] Confined Space	
[ ] Energy Isolation (LOTO)		[X] Excavation/Trenching	E/U LOA	[ ] Hot Work	
[ ] Mechanical Lifting Ops		[X] Overhead & Buried Utilities	E/U LOA	[ ] Other permit	

Discuss following questions (for some review previous day's post activities). **Check if yes :**

[ ] Incidents from day before to review?	[ ] Lessons learned from the day before?	[X] Topics from Corp H&S to cover? Covid-19
[ ] Any corrective actions from yesterday?	[ ] Will any work deviate from plan?	[ ] Any Stop Work Interventions yesterday?
[ ] JLAs or procedures are available?	[ ] Field teams to "dirty" JLAs, as needed?	[ ] If deviations, notify PM & client
[X] Staff has appropriate PPE?	[X] Staff knows Emergency Plan (EAP)?	[X] All equipment checked & OK?
		[X] Staff knows gathering points?

Comments:

Recognize the hazards (check all those that are discussed) (Examples are provided) and **A**ssess the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

[X] Gravity (i.e., ladder, scaffold, trips) (L (M) H) Slips, Trips, Falls	[X] Motion (i.e., traffic, moving water) (L (M) H) Moving Equipment	[X] Mechanical (i.e., augers, motors) (L (M) H) Augers, split spoons
[X] Electrical (i.e., utilities, lightning) (L M H) No overhead	[X] Pressure (i.e., gas cylinders, wells) (L M H) Hydraulic	[X] Environment (i.e., heat, cold, ice) (L (M) H) Hot, Humid
[X] Chemical (i.e., fuel, acid, paint) (L M H) Hydraulic	[X] Biological (i.e., ticks, poison ivy) (L M H) Mosquitos	[X] Radiation (i.e., alpha, sun, laser) (L (M) H) Sun - Sun Screen
[X] Sound (i.e., machinery, generators) (L M H) Split spoons	[ ] Personal (i.e. alone, night, not fit) (L M H)	[X] Driving (i.e. car, ATV, boat, dozer) (L M H) Driving on site

Continue TRACK Process on Page 2

TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes.

- [X] **STOP WORK AUTHORITY** (Must be addressed in every Tailgate meeting - (*See statements below*)
- [ ] Elimination
- [ ] Engineering controls
- [X] General PPE Usage
- [X] Personal Hygiene
- [ ] Emergency Action Plan (EAP)
- [ ] JLA to be developed/used ***(specify)***
- [ ] Substitution
- [ ] Administrative controls
- [X] Hearing Conservation *For Phys*
- [ ] Exposure Guidelines
- [ ] Fall Protection
- [ ] LPO conducted ***(specify job/JLA)***
- [ ] Isolation
- [X] Monitoring *PID*
- [ ] Respiratory Protection
- [X] Decon Procedures *Alconox DI*
- [ ] Work Zones/Site Control
- [ ] Traffic Control
- [ ] Other ***(specify)***

Signature and Certification Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign in Time	Initial & Sign out Time	I have read and understand the HASP
Jeff Bates / ARCADIS /	JB 7:30	JB 18:30	JB
Steve Lorentz / NDI /	SL 7:30	SL 3:30	SC
Avery Wall / NDI /	AW 7:30	AW 3:30	AW
Christian Lo / Seres /	CL 8:00	CL 18:00	CL

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3844.

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3844 and then Corp Legal at 1.720.344.3756.

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.9556 and Corp H&S at 1.720.344.3500

Visitor Name/Co - not involved in work

In	Out
In	Out
In	Out
In	Out

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB,** I will perform **TRACK**; and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:)

- [X] Lessons learned and best practices learned today: *Stand to the left or right of Augers When retracting*
- [ ] Incidents that occurred today: _____
- [ ] Any Stop Work interventions today? _____
- [ ] Corrective/Preventive Actions needed for future work: _____
- [ ] Any other H&S issues: *COVED - Avoid busy time at Store*

Keep H&S 1st in all things

WorkCare - 1.800.455.6155
Near Loss Hotline - 1.866.242.4304

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (9/2/2020)

ONSITE DATE Monday 9/2/2020

ONSITE RESOURCES
- 7:00 – 15:30 Nothnagle – Avery Wall and Steve Loranty
- 7:30 – 19:30 JV – Jeff Brayer (Arcadis), Chris Lo (SERES)

COMPLETED ACTIVITIES
- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting prior to onsite activities. See attached form.
- Completed installation of MW14 (overburden well)
  - Soil and QC samples submitted to laboratory.

NHFLA-MW14-A-SEP2020	0-1’ bgs
NHFLA-MW14-B-SEP2020	1.3-2.8’ bgs
NHFLA-EB11-SEP2020	Equipment Blank from Split Spoon

  - Spoon refusal was encountered at 4.5’ bgs. Auger refusal was not encountered at end of boring at 11’ bgs.
  - No sheen, discoloration or elevated PID readings observed in the soil cuttings.

MW14 (Overburden Well)	
Overburden	0-4.5’ bgs
Weathered bedrock	4.50-11’ bgs
Top of competent bedrock	Not present at 11’ bgs (end of boring)
First water bearing zone	7-11’ bgs
2” 10 slot screen (7’ of screen)	4-11’ bgs
Sand	3-4’ bgs
Bentonite Seal	2-3’ bgs
Grout	0-2’ bgs

PLANNED ACTIVITIES FOR 9/3/2020 - Perform installation of MW11. Hand clear MW12 location.

PHOTOGRAPHS

MW14 Drilling Set-up

MW14 Split Spoon 1-3’ bgs

MW14 After Completion

ARCADIS

Document Control Number: TGM - _____
TGM + *project number plus date as follows: xxxxxxxx.xxxx.xxxxx - dd/mm/year*

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: NIKE BOSE BLVD 31/52			**Project Location:** Homburg Hwy Dept.
Date: 9-2-20	**Time:** 7:30	**Conducted by:** C.L.O	**Signature/Title:**
Client: ACOE		**Client Contact:** ACOE	**Subcontractor companies:** Northwaple Drilling

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1 Mobilize Rig
2 Setup sampling table
3 Soil sample
4 Decon augers
5 Pack samples
6

Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations [X] If there are none, write "None" here:

If yes, describe them here: GUN RANGE WAS NOT ACTIVE - George Wells

How will they be controlled?

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
[ ] Not applicable		[ ] Working at Height		[ ] Confined Space	
[ ] Energy Isolation (LOTO)		[X] Excavation/Trenching	811 GAV	[ ] Hot Work	
[ ] Mechanical Lifting Ops		[X] Overhead & Buried Utilities	811 GAV	[ ] Other permit	

Discuss following questions (for some review previous day's post activities). **Check if yes :**

[ ] Incidents from day before to review?	[ ] Lessons learned from the day before?	[ ] Topics from Corp H&S to cover?
[ ] Any corrective actions from yesterday?	[ ] Will any work deviate from plan?	[ ] Any Stop Work Interventions yesterday? COVID-19
[ ] JLAs or procedures are available?	[ ] Field teams to "dirty" JLAs, as needed?	[ ] If deviations, notify PM & client
[X] Staff has appropriate PPE?	[X] Staff knows Emergency Plan (EAP)?	[ ] All equipment checked & OK?
		[ ] Staff knows gathering points?

Comments:

Recognize the hazards (check all those that are discussed) (Examples are provided) and **A**ssess the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

[X] Gravity (i.e., ladder, scaffold, trips) (L M H) Slips, trips, FALL	[X] Motion (i.e., traffic, moving water) (L M H) MOVING Equipment	[X] Mechanical (i.e., augers, motors) (L M H) Augers, split spoon
[X] Electrical (i.e., utilities, lightning) (L M H) No overhead	[X] Pressure (i.e., gas cylinders, wells) (L M H) Hydraulic	[X] Environment (i.e., heat, cold, ice) (L M H) Hot, humid, RAIN
[X] Chemical (i.e., fuel, acid, paint) (L M H) Hydraulic	[X] Biological (i.e., ticks, poison ivy) (L M H) mosquitos	[X] Radiation (i.e., alpha, sun, laser) (L M H) Sun screen
[X] Sound (i.e., machinery, generators) (L M H) split SPOONS	[ ] Personal (i.e. alone, night, not fit) (L M H)	[X] Driving (i.e. car, ATV, boat, dozer) (L M H) Driving on site

Continue TRACK Process on Page 2

TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes.

- [X] **STOP WORK AUTHORITY** (Must be addressed in every Tailgate meeting - (*See statements below*)
- [ ] Elimination
- [ ] Engineering controls
- [X] General PPE Usage
- [X] Personal Hygiene
- [ ] Emergency Action Plan (EAP)
- [ ] JLA to be developed/used ***(specify)***
- [ ] Substitution
- [ ] Administrative controls
- [X] Hearing Conservation EAR plugs
- [ ] Exposure Guidelines
- [ ] Fall Protection
- [ ] LPO conducted ***(specify job/JLA)***
- [ ] Isolation
- [ ] Monitoring – PID
- [ ] Respiratory Protection
- [ ] Decon Procedures ALCONOX DI
- [ ] Work Zones/Site Control
- [ ] Traffic Control
- [ ] Other ***(specify)***

Signature and Certification Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign in Time	Initial & Sign out Time	I have read and understand the HASP
Christian Lo/SERVES	CL 8:30	CL 17:30	C.L.
Avery Hill NDI	AW 07:30	AW 3:30	A.W.
Steve Lowry NDI	SL 0730	SL 330	SL
Jeff Baxter/ARCADIS	JB 7:30	JB 17:30	JB

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3844.

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3844 and then Corp Legal at 1.720.344.3756.

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.9556 and Corp H&S at 1.720.344.3500

Visitor Name/Co - not involved in work

In	Out

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB**, I will perform **TRACK**; and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:)

- [X] Lessons learned and best practices learned today: Don't stand by drill when operations
- [ ] Incidents that occurred today:
- [ ] Any Stop Work interventions today?
- [ ] Corrective/Preventive Actions needed for future work:
- [ ] Any other H&S issues: COVID - Don't go to heavily populated areas.

Keep H&S 1st in all things

WorkCare - 1.800.455.6155
Near Loss Hotline - 1.866.242.4304

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (9/3/2020)

ONSITE DATE Thursday 9/3/2020

ONSITE RESOURCES
- 7:00 – 15:30 Nothnagle – Avery Wall and Steve Loranty
- 7:30 – 19:30 JV – Jeff Brayer (Arcadis), Chris Lo (SERES)

COMPLETED ACTIVITIES
- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting prior to onsite activities. See attached form.
- Completed installation of MW11 (overburden well)
  - Soil and QC samples submitted to laboratory.

NHFLA-MW11-B-SEP2020	1.0-2.1’ bgs
NHFLA-MW11-C-SEP2020	5-6’ bgs
NHFLA-EB12-SEP2020	Equipment Blank from split spoon

  - Spoon refusal was encountered at 7’ bgs. Auger refusal was not encountered at end of boring at 14’ bgs.
  - No sheen, discoloration or elevated PID readings observed in the soil cuttings.

MW11 (Overburden Well)	
Overburden	0-7’ bgs
Weathered bedrock	7-11’ bgs
Top of competent bedrock	Not present at 14’ bgs (end of boring)
First water bearing zone	13-14’ bgs
2” 10 slot screen (7’ of screen)	5-14’ bgs
Sand	3-5’ bgs
Bentonite Seal	2-3’ bgs
Grout	0-2’ bgs

- Completed installation of MW12 (overburden well)
  - Soil and QC samples submitted to laboratory.

NHFLA-MW12-B-SEP2020	2.0-2.8’ bgs

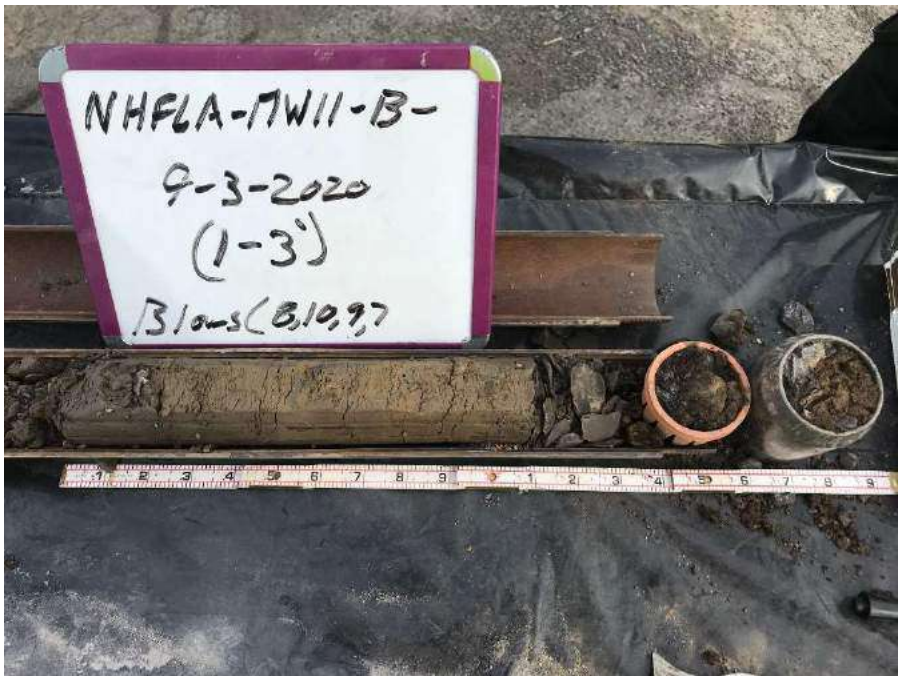
  - Spoon refusal was encountered at 8’ bgs. Auger refusal was not encountered at end of boring at 11’ bgs.
  - No sheen, discoloration or elevated PID readings observed in the soil cuttings.

MW12 (Overburden Well)	
Overburden	0-8’ bgs
Weathered bedrock	8-11’ bgs
Top of competent bedrock	Not present at 11’ bgs (end of boring)
First water bearing zone	10-11’ bgs
2” 10 slot screen (7’ of screen)	4-11’ bgs
Sand	3-4’ bgs
Bentonite Seal	2-3’ bgs
Grout	0-2’ bgs

PLANNED ACTIVITIES FOR 9/4/2020 – Set stick-up casing at MW-12; decommission wells GZA-MW4, GZA-MW2, GZA-MW1, and ME-MW-3

PHOTOGRAPHS

MW-11 Drilling



MW-11 B Soil Sample


MW-12 Drilling

Weathered Bedrock at MW-12

ARCADIS

Document Control Number: _____

TGM + *project number plus date as follows: xxxxxxxx.xxxx.xxxxx - dd/mm/year*

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: NIKE			**Project Location:** Hamburg Highway Dept
Date: 9-3-2020	**Time:** 7:30	**Conducted by:** J. Braker	**Signature/Title:** Geologist
Client: ACOE		**Client Contact:** ACOE	**Subcontractor companies:** Northwestern Drilling

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1 Mobilize Rig
2 Decon Spoon
3 Split spoon Sampling
4 Collecting Samples
5 Lifting / Decon Augers
6

Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations ☐ If there are none, write "None" here: _____

If yes, describe them here: _____

How will they be controlled? _____

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
☐ Not applicable		☐ Working at Height		☐ Confined Space	
☐ Energy Isolation (LOTO)		☒ Excavation/Trenching	BII/CAR	☐ Hot Work	
☐ Mechanical Lifting Ops		☒ Overhead & Buried Utilities	BII/CAR	☐ Other permit	

Discuss following questions (for some review previous day's post activities). **Check if yes :**

☐ Incidents from day before to review?	☐ Lessons learned from the day before?	☐ Topics from Corp H&S to cover? COVID-19
☐ Any corrective actions from yesterday?	☐ Will any work deviate from plan?	☐ Any Stop Work Interventions yesterday?
☐ JLAs or procedures are available?	☐ Field teams to "dirty" JLAs, as needed?	☐ If deviations, notify PM & client
☒ Staff has appropriate PPE?	☒ Staff knows Emergency Plan (EAP)?	☒ All equipment checked & OK?
		☒ Staff knows gathering points?

Comments: _____

Recognize the hazards (check all those that are discussed) (Examples are provided) and **A**ssess the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

☒ Gravity (i.e., ladder, scaffold, trips) (L M (H)) Slips, Trips, falls	☒ Motion (i.e., traffic, moving water) (L (M) H) Equipment / Trucks in Yard	☒ Mechanical (i.e., augers, motors) (L (M) H) Augers, Spoons,
☒ Electrical (i.e., utilities, lightning) (L M (H)) Buried Electrical	☒ Pressure (i.e., gas cylinders, wells) (L M H) Hydraulic	☒ Environment (i.e., heat, cold, ice) (L (M) H) Humid, Heat
☒ Chemical (i.e., fuel, acid, paint) ((L) M H) Potential of PCB	☒ Biological (i.e., ticks, poison ivy) (L M H) Mosquitos	☒ Radiation (i.e., alpha, sun, laser) (L M (H)) Sun - Wear Sunscreen
☒ Sound (i.e., machinery, generators) (L (M) H) Spoon Foundry	☒ Personal (i.e. alone, night, not fit) (L (M) H) Staff focused on work Not holiday	☒ Driving (i.e. car, ATV, boat, dozer) (L M H) Driving on Site

Continue TRACK Process on Page 2

TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes.

- [X] **STOP WORK AUTHORITY** (Must be addressed in every Tailgate meeting - (*See statements below*)
- [ ] Elimination
- [ ] Engineering controls
- [X] General PPE Usage
- [ ] Personal Hygiene
- [ ] Emergency Action Plan (EAP)
- [ ] JLA to be developed/used ***(specify)***
- [ ] Substitution
- [ ] Administrative controls
- [X] Hearing Conservation
- [ ] Exposure Guidelines
- [ ] Fall Protection
- [ ] LPO conducted ***(specify job/JLA)***
- [ ] Isolation
- [X] Monitoring
- [ ] Respiratory Protection
- [X] Decon Procedures
- [X] Work Zones/Site Control - Block workzone
- [X] Traffic Control Cones
- [ ] Other ***(specify)***

Signature and Certification Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign in Time	Initial & Sign out Time	I have read and understand the HASP
Jeff Brayer / ARCADIS /	JB 7:30	JB 18:30	JB
Steve Lomnitz / NDI /	SL 7:00	SL 3:00	SL
Avery Walker NDI /	AW 7:00	AW 3:00	SL
Christian Lo / ARCADIS /	CL 7:30	CL 18:00	CL

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3844.

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3844 and then Corp Legal at 1.720.344.3756.

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor. who will then immediately notify Corp Legal at 1.678.373.9556 and Corp H&S at 1.720.344.3500

Visitor Name/Co - not involved in work

In	Out
In	Out
In	Out
In	Out

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB,** I will perform **TRACK**; and then amend the hazard assessments or the HASP as needed.

I **will not assist** a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:)

- [X] Lessons learned and best practices learned today: Stay focused on Task - Not Holiday Weekend
- [ ] Incidents that occurred today:
- [ ] Any Stop Work interventions today?
- [ ] Corrective/Preventive Actions needed for future work:
- [ ] Any other H&S issues:

Keep H&S 1st in all things

WorkCare - 1.800.455.6155
Near Loss Hotline - 1.866.242.4304

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (9/4/2020)

ONSITE DATE Friday 9/4/2020

ONSITE RESOURCES
- 7:00 – 15:30 Nothnagle – Avery Wall and Steve Loranty
- 7:30 – 19:30 JV – Chris Lo (SERES)

COMPLETED ACTIVITIES
- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting prior to onsite activities. See attached form.
- Decommissioned wells GZA-MW-1, GZA-MW-2, and GZA-MW-4
    - Could not decommission ME-MW-3 due to the presence of a large bees nest. Decommissioning will be performed after removal of nest by exterminator.
- Began development of newly installed monitoring wells.

PLANNED ACTIVITIES FOR 9/8/2020 – Conduct surface and subsurface soil sampling, continue monitoring well development, set bollards around monitoring wells.

PHOTOGRAPHS

GZA-MW-2 Decommissioned Well

GZA-MW-4 Decommissioning

ARCADIS

Document Control Number: TGM - _____

TGM + *project number plus date as follows: xxxxxxxx.xxxx.xxxxx - dd/mm/year*

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: NIKE BOSE BU 5152			**Project Location:** Hanburg Hwy Dept
Date: 9-4-2020	**Time:** 7:30	**Conducted by:**	**Signature/Title:**
Client:		**Client Contact:**	**Subcontractor companies:** Noth Nagle drilling

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1 MOBOLIZE RIG 3 Closing Wells 5 _____

2 _____ 4 _____ 6 _____

Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations ☐ If there are none, write "None" here: _____

If yes, describe them here: GUN RANGE WAS NOT ACTIVE. - George Wells

How will they be controlled? _____

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
☐ Not applicable		☐ Working at Height		☐ Confined Space	
☐ Energy Isolation (LOTO)		☐ Excavation/Trenching		☐ Hot Work	
☐ Mechanical Lifting Ops		☐ Overhead & Buried Utilities		☐ Other permit	

Discuss following questions (for some review previous day's post activities). **Check if yes :**

☐ Incidents from day before to review?	☐ Lessons learned from the day before?	☐ Topics from Corp H&S to cover?
☐ Any corrective actions from yesterday?	☐ Will any work deviate from plan?	☐ Any Stop Work Interventions yesterday? COVID-19
☐ JLAs or procedures are available?	☐ Field teams to "dirty" JLAs, as needed?	☐ If deviations, notify PM & client
☒ Staff has appropriate PPE?	☐ Staff knows Emergency Plan (EAP)?	☐ All equipment checked & OK?
		☐ Staff knows gathering points?

Comments: _____

Recognize the hazards (check all those that are discussed) (Examples are provided) and **A**ssess the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

☒ Gravity (i.e., ladder, scaffold, trips) (L (M) H) Slips, trips, FALLS	☐ Motion (i.e., traffic, moving water) (L M H)	☐ Mechanical (i.e., augers, motors) (L M H)
☐ Electrical (i.e., utilities, lightning) (L M H)	☑ Pressure (i.e., gas cylinders, wells) (L M H) Hydraulic	☒ Environment (i.e., heat, cold, ice) (L M H) Nice 67°
☒ Chemical (i.e., fuel, acid, paint) (L M H) Hydraulic	☒ Biological (i.e., ticks, poison ivy) (L M (H)) BEES	☒ Radiation (i.e., alpha, sun, laser) (L M H) Sunscreen
☐ Sound (i.e., machinery, generators) (L M H)	☐ Personal (i.e. alone, night, not fit) (L M H)	☒ Driving (i.e. car, ATV, boat, dozer) (L M H) Driving on site

Continue TRACK Process on Page 2

TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes.

[X]	**STOP WORK AUTHORITY** (Must be addressed in every Tailgate meeting - (*See statements below*)				
[ ]	Elimination	[ ]	Substitution	[ ]	Isolation
[ ]	Engineering controls	[ ]	Administrative controls	[ ]	Monitoring
[X]	General PPE Usage	[X]	Hearing Conservation EAR PLUGS	[ ]	Respiratory Protection
[X]	Personal Hygiene	[ ]	Exposure Guidelines	[X]	Decon Procedures ALCONOX
[ ]	Emergency Action Plan (EAP)	[ ]	Fall Protection	[ ]	Work Zones/Site Control
[ ]	JLA to be developed/used ***(specify)***	[ ]	LPO conducted ***(specify job/JLA)***	[ ]	Traffic Control
[ ]		[ ]		[ ]	Other ***(specify)***

Signature and Certification Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign in Time	Initial & Sign out Time	I have read and understand the HASP
Jeff Bayol / ARCADIS /	JB 7:30	~~12:00~~ JB	JB
Christian Lo / SERGES /	CL 7:30	CL 3:00	CL
Aveng will / NDF /	AV 7:00	AV 3:00	AV
Steve Lomsky / NDF /	SL 7:00	SL 3:00	SL

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3844.

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3844 and then Corp Legal at 1.720.344.3756.

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.9556 and Corp H&S at 1.720.344.3500

Visitor Name/Co - not involved in work

In	Out
In	Out
In	Out
In	Out

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB,** I will perform **TRACK**; and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:)

- [X] Lessons learned and best practices learned today: BEES LOT OF BEES AT AWELL
- [ ] Incidents that occurred today:
- [ ] Any Stop Work interventions today?
- [ ] Corrective/Preventive Actions needed for future work:
- [ ] Any other H&S issues:

Keep H&S 1st in all things

WorkCare - 1.800.455.6155
Near Loss Hotline - 1.866.242.4304

WEEKLY FIELD SUMMARY

To:
Erin Kirby, USACE - New England

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

Date:
September 8, 2020

FUDS Project Number:
C02NY0079

Subject:

Nike BU 51/52 – Hamburg, NY – Weekly Field Summary (August 31, 2020 – September 4, 2020)

Onsite Personnel (See Daily Field Report for Individual Names and Times Onsite)

- JV (Arcadis/SERES): 8/31/2020 – 9/4/2020
- Nothnagle: 8/31/2020 – 9/4/2020

Completed Activities

- Installation of overburden wells MW3, MW8, MW4OB, MW14, MW11, and MW12 with associated soil samples.
- Decommissioned wells GZA-MW1, GZA-MW2, and GZA-MW4.
- Continued development of newly installed monitoring wells.

Items Discussed

- Chain of custody with lab signatures will be uploaded within 5 days of sampling.

Health and Safety

- Checked in with Town of Hamburg Buildings and Grounds daily.
- Completed H&S tailgate meetings daily prior to onsite activities.
- Zero Lost-Time Accidents

Planned Activities

- Surface and subsurface soil samples will be collected from on-site and reference locations during the week of 9/7/2020.
- Well development will continue during the week of 9/7/2020.

Samples Collected **August 31, 2020 – September 4, 2020**

Sample Name	Depth Range	Date	VOC 8260C	SVOC 8270D	Hydrazine 8315A	Metals 6010C, 7471	Total Solids SM2540B	TOC Lloyd Kahn	Grain Size ASTMD422	Hex Cr 7196A	pH	QC
NHFLA-MW3-A-AUG2020	0-1' bgs	8/31/2020	X	X	X	X	X	X	X	X	X	
NHFLA-DUP3-AUG2020	0-1' bgs (MW3-A)	8/31/2020	X	X	X	X	X	X	X	X	X	
NHFLA-DUP4-AUG2020	1-3' bgs (MW3-B)	8/31/2020	X	X	X	X	X	X	X	X		NHFLA-EB9-SEP2020
NHFLA-MS3-AUG2020	1-3' bgs (MW3-B)	8/31/2020	X	X	X	X	X	X	X	X		NHFLA-TB10-SEP2020
NHFLA-MSD3-AUG2020	1-3' bgs (MW3-B)	8/31/2020	X	X	X	X	X	X	X	X		NHFLA-TB11-SEP2020
NHFLA-MW3-B-AUG2020	1-3' bgs	8/31/2020	X	X	X	X	X	X	X	X		
NHFLA-DUP5-SEP2020	1-3' bgs (MW8-B)	9/1/2020	X	X	X	X	X	X	X	X		
NHFLA-MW8-A-SEP2020	0-1' bgs	9/1/2020	X	X	X	X	X	X	X	X	X	NHFLA-EB10-SEP2020
NHFLA-MW8-B-SEP2020	1-3' bgs	9/1/2020	X	X	X	X	X	X	X	X		NHFLA-TB12-SEP2020
NHFLA-MW12-B-SEP2020	2.0-2.8' bgs	9/2/2020	X	X	X	X	X	X	X	X		
NHFLA-MW14-A-SEP2020	0-1' bgs	9/2/2020	X	X	X	X	X	X	X	X	X	NHFLA-EB11-SEP2020
NHFLA-MW14-B-SEP2020	1.3-2.8' bgs	9/2/2020	X	X	X	X	X	X	X	X		NHFLA-TB13-SEP2020
NHFLA-MW11-B-SEP2020	1.0-2.1' bgs	9/3/2020	X	X	X	X	X	X	X	X		NHFLA-EB12-SEP2020
NHFLA-MW11-C-SEP2020	5-6' bgs	9/3/2020	X	X	X	X	X	X	X	X		NHFLA-TB14-SEP2020

Investigation Derived Waste Generated **August 31, 2020 – September 4, 2020**

Date Generated	Location	Soil drums	Water Drums
8/31/2020	MW3	1	
9/1/2020	MW8 & 4OB	2	
9/2/2020	MW14	1	
9/3/2020	MW11 & 12	2	
Week of 8/31/20	Well Development		3
TOTAL		**6**	**3**

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (9/8/2020)

ONSITE DATE Tuesday 9/8/2020

ONSITE RESOURCES
- 9:00 – 3:00 Nothnagle – Avery Wall, Jeff Schwake, Anthony Fanell
- 7:30 – 18:00 JV – Jeff Brayer (Arcadis)

COMPLETED ACTIVITIES
- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting prior to onsite activities. See attached form.
- Installed Bollards
- No samples collected.

PLANNED ACTIVITIES FOR 9/9/2020 – Continue sampling at reference locations.

ARCADIS

Document Control Number:TGM - _____

TGM = project number plus date as follows: xxxxxxx.xxx.xxxx - dd/mm/year

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: NIKE Hornby		**Project Location:** 2720 Lake Van Rd	
Date: 9820	**Time:** ~~7:00~~ 8:00	**Conducted by:** J. Baker	**Signature/Title:**
Client: ACOE	**Client Contact:** ACOE		**Subcontractor companies:**

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1. Mobilize to site
2. Unload Equipment
3. Hike Cascade to Post
4. Cutting Bollards
5. Augering bollards
6. Installing bollards

Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations ☐ If there are none, write "None" here: _____

If yes, describe them here: _____

How will they be controlled? _____

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
☐ Not applicable		☐ Working at Height		☐ Confined Space	
☐ Energy Isolation (LOTO)		☐ Excavation/Trenching		☐ Hot Work	
☐ Mechanical Lifting Ops		☐ Overhead & Buried Utilities		☐ Other permit	

Discuss following questions (for some review previous day's prior activities). **Check if yes :**

☐ Incidents from day before to review?	☐ Lessons learned from the day before?	☒ Topics from Corp H&S to cover? Boss
☐ Any corrective actions from yesterday?	☐ Will any work deviate from plan?	☐ Any Stop Work Interventions yesterday?
☐ JLAs or procedures are available?	☐ Field teams to "dirty" JLAs, as needed?	☐ If deviations, notify PM & client
☒ Staff has appropriate PPE?	☒ Staff knows Emergency Plan (EAP)?	☒ All equipment checked & OK?
		☐ Staff knows gathering points?

Comments: _____

Recognize the hazards (check all those that are discussed) (Examples are provided) and **A**ssess the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

☒ Gravity (i.e., ladder, scaffold, slips) (L M H) Hand tools, Slips, Falls	☒ Motion (i.e., traffic, moving water) (L M H) Moving Equipment in tight area, Augers, Sand	☒ Mechanical (i.e., augers, motors) (L M H)
☒ Electrical (i.e., utilities, lightning) (L M H) Overhead - Bll called	☒ Pressure (i.e., gas cylinders, wells) (L M H) Hydraulic	☒ Environment (i.e., heat, cold, ice) (L M H) Weather Hazard
☒ Chemical (i.e., fuel, solvent, paint) (L M H) Bentonite	☒ Biological (i.e., ticks, poison ivy) (L M H) Mosquitos, Ticks	☒ Radiation (i.e., alpha, sun, laser) (L M H) Wear Sunscreen
☒ Sound (i.e., machinery, generators) (L M H) Loud Equipment	☒ Personal (i.e. alone, night, not fit) (L M H) Low personnel to Site	☒ Driving (i.e. car, ATV, boat, dozer) (L M H) Watch for unexpected Thin

Continue TRACK Process on Page 2

TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes.

- [x] **STOP WORK AUTHORITY** (Must be addressed in every Tailgate meeting - (See statements below)
- [ ] Elimination
- [ ] Engineering controls
- [x] General PPE Usage
- [x] Personal Hygiene
- [x] Emergency Action Plan (EAP)
- [ ] JLA to be developed/used (specify)
- [ ] Substitution
- [ ] Administrative controls
- [ ] Hearing Conservation
- [ ] Exposure Guidelines
- [ ] Fall Protection
- [ ] UPO conducted (specify job/JLA)
- [ ] Isolation
- [x] Monitoring
- [x] Respiratory Protection
- [x] Decon Procedures
- [x] Work Zones/Site Control
- [ ] Traffic Control
- [ ] Other (specify)

Signature and Certification Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign in Time	Initial & Sign out Time	I have read and understand the HASP
Jeff Brake / ARCADIS	JB 7:30	JB	JB
Jeff Schuster / NDI	MB 9:00	MB 3:00	MB
Andrew / NDI	AV 9:00	AV 3:00	AV

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3644.

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3644 and then Corp Legal at 1.720.344.3756.

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.9596 and Corp H&S at 1.720.344.3500

Visitor Name/Co - not involved in work

In	Out

I will **STOP** the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB**, I will perform **TRACK**, and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:)

- [x] Lessons learned and best practices learned today: New Contractor to the Site - Orientation
- [ ] Incidents that occurred today:
- [x] Any Stop Work interventions today? Go over Complete Site Hazard + HASP
- [ ] Corrective/Preventive Actions needed for future work:
- [ ] Any other H&S issues:

Keep H&S 1st in all things

WorkCare - 1.800.455.6155
Near Loss Hotline - 1.866.242.4304

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (9/9/2020)

ONSITE DATE Wednesday 9/9/2020

ONSITE RESOURCES
- 8:00 – 16:00 Nothnagle – Avery Wall, Jeff Schwake, Anthony Fanell
- 7:00 – 18:00 JV – Jeff Brayer (Arcadis)
- 11:00 – 17:30 JV – Kate Clubine (Arcadis)

COMPLETED ACTIVITIES
- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting prior to onsite activities. See attached form.
- Installed Bollards
- Reference and QC samples submitted to laboratory. No sheen, discoloration or elevated PID readings observed. Refer to boring logs for composition.

NHFLA-BH44-A-SEP2020	0-1’ bgs
NHFLA-BH44-B-SEP2020	1-3’ bgs
NHFLA-BH45-A-SEP2020	0-1’ bgs
NHFLA-BH45-B-SEP2020	1-3’ bgs
NHFLA-BH49-A-SEP2020	0-1’ bgs
NHFLA-BH49-B-SEP2020	1-3’ bgs
NHFLA-BH51-A-SEP2020	0-1’ bgs
NHFLA-BH51-B-SEP2020	1-3’ bgs

- Completed well development at MW8 and MW9OB.

PLANNED ACTIVITIES FOR 9/10/2020 – Continue sampling at reference locations.

PHOTOGRAPHS

ARCADIS

Document Control Number:TGM - _____

TGM + *project number plus date as follows: xxxxxx xxx xxxx - dd/mm/year*

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: ACOE-NERE Hamburg Bus 5/52			Project Location: 2220 Lakeview Rd Lakeview, NY
Date: 9-9-20	Time: 8:00	Conducted by: J. Baker	Signature/Title: Geologist
Client: ACOE		Client Contact:	Subcontractor companies: Aardvark Drilling LLC

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1. Settin Bollards
2. Soil Sampling
3. Utility Scans
4. Well development
5. Sample processing
6. Mop Concrete

Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations ☐ If there are none, write "None" here: _____

If yes, describe them here: New Workers to the Site

How will they be controlled? Orientation - Site Rules, HASP

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
☐ Not applicable		☐ Working at Height		☐ Confined Space	
☐ Energy Isolation (LOTO)		☒ Excavation/Trenching	811	☐ Hot Work	
☐ Mechanical Lifting Ops		☒ Overhead & Buried Utilities	811	☐ Other permit	

Discuss following questions (for same review previous day's past activities). **Check if yes :**

☐ Incidents from day before to review?	☐ Lessons learned from the day before?	☒ Any Stop Work Interventions yesterday?
☐ Any corrective actions from yesterday?	☐ Will any work deviate from plan?	☐ If deviations, notify PM & client
☐ JLAs or procedures are available?	☐ Field teams to "dirty" JLAs, as needed?	☒ All equipment checked & OK?
☒ Staff has appropriate PPE?	☐ Staff knows Emergency Plan (EAP)?	☐ Staff knows gathering points?

☐ Topics from Corp H&S to cover?

Comments: _____

Recognize the hazards (check all those that are discussed) (Examples are provided) and **A**ssess the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

☒ Gravity (i.e., ladder, scaffold, trips) (L M H) Slips, Trips, Falls	☒ Motion (i.e., traffic, moving water) (L M H) Expect on unpaved Roads	☒ Mechanical (i.e., augers, motors) (L M H) Augers, Drill Stems
☒ Electrical (i.e., utilities, lightning) (L M H) Overhead	☒ Pressure (i.e., gas cylinders, wells) (L M H) Hydrant	☒ Environment (i.e., heat, cold, ice) (L M H) Hot Humid 89°
☒ Chemical (i.e., fuel, acid, paint) (L M H) Concrete, Concrete	☒ Biological (i.e., ticks, poison ivy) (L M H) Mosquitos, Poison Ivy	☒ Radiation (i.e., alpha, sun, laser) (L M H) Sun - wear Sunscreen
☒ Sound (i.e., machinery, generators) (L M H) 55 advisory - Work Zone	☒ Personal (i.e., alone, night, not fit) (L M H) New personnel to site	☒ Driving (i.e., car, ATV, boat, dozer) (L M H) Driving on site

Continue TRACK Process on Page 2

TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes.

- [x] **STOP WORK AUTHORITY** (Must be addressed in every Tailgate meeting - (*See statements below*)
- [ ] Elimination
- [ ] Engineering controls
- [x] General PPE Usage
- [ ] Personal Hygiene
- [ ] Emergency Action Plan (EAP)
- [ ] JLA to be developed/used (specify)
- [ ] Substitution
- [x] Administrative controls
- [x] Hearing Conservation
- [ ] Exposure Guidelines
- [ ] Fall Protection
- [ ] LPO conducted (specify job/JLA)
- [ ] Isolation
- [x] Monitoring
- [x] Respiratory Protection
- [ ] Decon Procedures
- [x] Work Zones/Site Control
- [x] Traffic Control
- [ ] Other (specify)

Signature and Certification Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign in Time	Initial & Sign out Time	I have read and understand the HASP
Jeff Brake / ARCADIS /	JB 7:00	JB 18:00	JB
Anthony Fondi / NDE /	AF 8:00	AF	AF
Jeff Shrader / NDI /			
Avery Lyn / NDE /	AV 9:00	AV	AV
Kate Claburne / Arcadis	KC 11:00	KC 17:30	KC

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3844.

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3844 and then Corp Legal at 1.720.344.3756.

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.9556 and Corp H&S at 1.720.344.3500

Visitor Name/Co - not involved in work

In	Out
In	Out
In	Out
In	Out

I will **STOP** the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB**, I will perform **TRACK** and then amend the hazard assessments or the HASP as needed.

I will not **assist** a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:)

- [ ] Lessons learned and best practices learned today:
- [ ] Incidents that occurred today:
- [ ] Any Stop Work interventions today?
- [ ] Corrective/Preventive Actions needed for future work:
- [ ] Any other H&S issues:

Keep H&S 1st in all things

WorkCare - 1.800.455.6155
Near Loss Hotline - 1.866.242.4304

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (9/10/2020)

ONSITE DATE Thursday 9/10/2020

ONSITE RESOURCES
- 8:00 – 16:00 Nothnagle – Avery Wall, Jeff Schwake
- 7:30 – 18:00 JV – Jeff Brayer (Arcadis)

COMPLETED ACTIVITIES
- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting prior to onsite activities. See attached form.
- Installed bollards around wells.
- Reference and QC samples submitted to laboratory. No sheen, discoloration or elevated PID readings observed. Silt and clay observed from 0-2.2' bgs fractured and weathered shale from 2.2-3' bgs at locations BH46.

NHFLA-BH46-A-SEP2020	0-1' bgs
NHFLA-BH46-B-SEP2020	1-3' bgs
NHFLA-DUP6-SEP2020	0-1' bgs
NHFLA-MS4-SEP2020	0-1' bgs
NHFLA-MSD4-A-SEP2020	0-1' bgs
NHFLA-EB14-SEP2020	Equipment blank
NHFLA-TB16-SEP2020	Trip Blank

- Completed well development at MW7OB, MW10, and MW13.

PLANNED ACTIVITIES FOR 9/11/2020 – Continue sampling at reference locations.

PHOTOGRAPHS

ARCADIS

Document Control Number:TGM - _____

TGM + *project number plus date as follows: xxxxxxxx.xxxx.xxxxx - dd/mm/year*

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: ACOE MRKE Hockey Rink 5/1/52			**Project Location:** 2720 Lakeview Rd Lakeview
Date: 9-10-20	**Time:** 7:30	**Conducted by:** T. Baker	**Signature/Title:** Biologist
Client: ACOE		**Client Contact:**	**Subcontractor companies:** Northgate Drilling

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1. Set Bollards (Drilling)
2. Mixing Concrete
3. Sample Surface Soil
4. Mobilize Rig
5. Painting Bollards
6. _____

Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations: [X]

If there are none, write "None" here: _____

If yes, describe them here: Mixing Concrete for Well Bollards

How will they be controlled? Mix so that fine dust is minimized and wear upwind

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
[ ] Not applicable		[ ] Working at Height		[ ] Confined Space	
[ ] Energy Isolation (LOTO)		[X] Excavation/Trenching	811 EAP	[ ] Hot Work	
[ ] Mechanical Lifting Ops		[ ] Overhead & Buried Utilities	811 EAP	[ ] Other permit	

Discuss following questions (for some review previous day's past activities). **Check if yes :**

[ ] Incidents from day before to review?	[ ] Lessons learned from the day before?	[ ] Any Stop Work Interventions yesterday?
[ ] Any corrective actions from yesterday?	[ ] Will any work deviate from plan?	[ ] If deviations, notify PM & client
[ ] JLAs or procedures are available?	[ ] Field teams to "dirty" JLAs, as needed?	[X] All equipment checked & OK?
[X] Staff has appropriate PPE?	[X] Staff knows Emergency Plan (EAP)?	[ ] Staff knows gathering points?

[X] Topics from Corp H&S to cover? Cold

Comments: _____

Recognize the hazards (check all those that are discussed) (Examples are provided) and **A**ssess the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

[X] Gravity (i.e., ladder, scaffold, trips) (L M H): Wet boots, Slips, Trips, Mobilizing Rig	[X] Motion (i.e., traffic, moving water) (L M H)	[X] Mechanical (i.e., augers, motors) (L M H): Split spoons, Augers/Bits
[X] Electrical (i.e., utilities, lightning) (L M H): Buried & Above Overhead	[X] Pressure (i.e., gas cylinders, wells) (L M H): Artesian	[X] Environment (i.e., heat, cold, ice) (L M H): Cold temp
[X] Chemical (i.e., fuel, acid, paint) (L M H): Benzene - Hydrocarbons	[X] Biological (i.e., ticks, poison ivy) (L M H): Mosquitos, Ticks	[X] Radiation (i.e., alpha, sun, laser) (L M H): Sun - Sunburn
[X] Sound (i.e., machinery, generators) (L M H): Driving Split spoons	[X] Personal (i.e. alone, night, not fit) (L M H): Worn and not fit	[X] Driving (i.e. car, ATV, boat, dozer) (L M H): Driving on Site

Continue TRACK Process on Page 2

TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes.

[X] **STOP WORK AUTHORITY** (Must be addressed in every Tailgate meeting - *See statements below*)		
[ ] Elimination	[ ] Substitution	[ ] Isolation
[ ] Engineering controls	[ ] Administrative controls	[X] Monitoring
[X] General PPE Usage	[X] Hearing Conservation	[ ] Respiratory Protection
[X] Personal Hygiene	[ ] Exposure Guidelines	[X] Decon Procedures
[ ] Emergency Action Plan (EAP)	[ ] Fall Protection	[X] Work Zones/Site Control
[ ] JLA to be developed/used *(specify)*	[ ] LPO conducted *(specify job/JLA)*	[ ] Traffic Control
[ ]	[ ]	[ ] Other *(specify)*
[ ]	[ ]	[ ]

Signature and Certification Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign in Time	Initial & Sign out Time	I have read and understand the HASP
Jeff Bratt / ARCADIS /	JB 730	JB 1240	JB
Jeff Schaal / ARCADIS /	JS 800	JS 1000	JS
ARCADIS /	AV 800	AV 1400	AV

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3644.

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3644 and then Corp Legal at 1.720.344.3756.

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.9556 and Corp H&S at 1.720.344.3500.

Visitor Name/Co - not involved in work

	In	Out
	In	Out
	In	Out
	In	Out

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB,** I will perform **TRACK**, and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:)

- [X] Lessons learned and best practices learned today: Don't over ~~complicate~~ Expect when opening spaces
- [ ] Incidents that occurred today:
- [ ] Any Stop Work interventions today?
- [ ] Corrective/Preventive Actions needed for future work:
- [ ] Any other H&S issues:

Keep H&S 1st in all things

WorkCare - 1.800.455.6155
Near Loss Hotline - 1.866.242.4304

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (9/11/2020)

ONSITE DATE Friday 9/11/2020

ONSITE RESOURCES
- 8:00 – 15:30 Nothnagle – Avery Wall, Jeff Schwake, Anthony Fanell
- 7:00 – 18:00 JV – Jeff Brayer (Arcadis)
- 10:30 – 16:30 JV – Kate Clubine (Arcadis)

COMPLETED ACTIVITIES
- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting prior to onsite activities. See attached form.
- Installed bollards around wells.
- Surface soil and QC samples submitted to laboratory. No sheen, discoloration or elevated PID readings observed.

NHFLA-SL11A-SEP2020	0-1' bgs	Silt and gravel 0-0.2', silt and clay 0.2'-1' bgs
NHFLA-DUP7-SEP2020	1-1' bgs SL11A	Silt and gravel 0-0.2', silt and clay 0.2'-1' bgs
NHFLA-MS5-SEP2020	0-1' bgs SL11A	Silt and gravel 0-0.2', silt and clay 0.2'-1' bgs
NHFLA-MSD5-SEP2020	0-1' bgs SL11A	Silt and gravel 0-0.2', silt and clay 0.2'-1' bgs
NHFLA-SL25-A-SEP2020	0-1' bgs	Silt and gravel
NHFLA-SL11B-A-SEP2020	1.7-3' bgs	0-1' asphalt, 1-1.7' crushed stone, 1.7-3' silt and clay

PLANNED ACTIVITIES FOR 9/15/2020 – Continue sampling at reference locations.

PHOTOGRAPHS

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ARCADIS

Document Control Number TGM - _____

TGM + *project number plus date as follows: xxxxxxx.xxx.xxxxx - dd/mm/year*

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: ACOE Nike Hornby B30 SI/SC		**Project Location:** 2720 Lakeview Rd	
Date: 2-11-20 (Tuesday)	**Time:** 7:30	**Conducted by:**	**Signature/Title:** Foreman
Client: ACOE		**Client Contact:**	**Subcontractor companies:**

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1. Set Bollards
2. Collect Soil Samples
3. Mixing Concrete
4. Hand Clearing
5. Assisting Bobcats
6. Assisting Coolers

Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations ☐ If there are none, write "None" here: _____

If yes, describe them here: Drilling in possible AB area - Watch for Impacts

How will they be controlled? _____

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
☐ Not applicable		☐ Working at Height		☐ Confined Space	
☐ Energy Isolation (LOTO)		☒ Excavation/Trenching	BH GAR	☐ Hot Work	
☐ Mechanical Lifting Ops		☒ Overhead & Buried Utilities	BH GAR	☐ Other permit	

Discuss following questions (for some review previous day's post activities). **Check if yes :**

☐ Incidents from day before to review?	☐ Lessons learned from the day before?	☒ Topics from Corp H&S to cover? Covid-19
☐ Any corrective actions from yesterday?	☐ Will any work deviate from plan?	☐ Any Stop Work Interventions yesterday?
☐ JLAs or procedures are available?	☐ Field teams to "dirty" JLAs, as needed?	☐ If deviations, notify PM & client
☒ Staff has appropriate PPE?	☒ Staff knows Emergency Plan (EAP)?	☒ All equipment checked & OK?
		☒ Staff knows gathering points?

Comments: _____

Recognize the hazards (check all those that are discussed) (Examples are provided) and **A**ssess the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

☒ Gravity (i.e., ladder, scaffold, rope) (L M H) Uneven ground, Rocky debris	☒ Motion (i.e., traffic, moving water) (L M H) Moving Rig on Site/Hwy	☒ Mechanical (i.e., augers, motors) (L M H) SS, Augers, Hand tools
☒ Electrical (i.e., utilities, lightning) (L M H) Buried (Telus)	☒ Pressure (i.e., gas cylinders, water) (L M H) Hydraulic	☒ Environment (i.e., heat, cold, ice) (L M H) Cold morning, Seasonal Change
☒ Chemical (i.e., fuel, acid, paint) (L M H) PCBs, Bentonite, Concrete	☒ Biological (i.e., ticks, poison ivy) (L M H) Mosquitoes	☒ Radiation (i.e., alpha, sun, laser) (L M H) Sun - Sun Screen
☒ Sound (i.e., machinery, generators) (L M H) Split team Simply	☒ Personal (i.e. alone, night, not fit) (L M H) Cold morning Bulk clothes	☒ Driving (i.e. car, ATV, boat, dozer) (L M H) Driving on Site

Continue TRACK Process on Page 2

TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): *Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes.*

- [X] **STOP WORK AUTHORITY** (Must be addressed in every Tailgate meeting - *(See statements below)*
- [ ] Elimination
- [ ] Engineering controls
- [X] General PPE Usage
- [X] Personal Hygiene
- [ ] Emergency Action Plan (EAP)
- [ ] JLA to be developed/used *(specify)*
- [ ] Substitution
- [ ] Administrative controls
- [X] Hearing Conservation
- [ ] Exposure Guidelines
- [ ] Fall Protection
- [ ] LPO conducted *(specify job/JLA)*
- [ ] Isolation
- [X] Monitoring AED
- [X] Respiratory Protection Mask (cart Disp
- [X] Decon Procedures
- [X] Work Zones/Site Control - Block of Truck
- [ ] Traffic Control
- [ ] Other *(specify)*

Signature and Certification Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign in Time	Initial & Sign out Time	I have read and understand the HASP
Jeff Bass / ARCADIS / NDI	JB 7:00	AM 18:30	JB
Avery Vail / ARCADIS / NDI	AV 7:00	AV 3:00	A V
Jeff Stanley / ARCADIS / NDI	JS 7:00	3:30 PM	JS
Anthony Fiorito III / ARCADIS / NDI	AF 8:00	AF 3:30	AF
Kate Cleberis Arcadis	KC 10:30	KC 6:30	KC

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3644.

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3644 and then Corp Legal at 1.720.344.3756.

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.9556 and Corp H&S at 1.720.344.3600.

Visitor Name/Co - not involved in work

	In	Out

I will **STOP** the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB**, I will perform **TRACK**, and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:)

- [ ] Lessons learned and best practices learned today: Block Site w/ trucks + Expect employee movement by Dept.
- [ ] Incidents that occurred today:
- [ ] Any Stop Work interventions today?
- [ ] Corrective/Preventive Actions needed for future work:
- [ ] Any other H&S issues:

Keep H&S 1st in all things

WorkCare - 1.800.455.6155
Near Loss Hotline - 1.866.242.4304

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (9/14/2020)

ONSITE DATE Monday 9/14/2020

ONSITE RESOURCES
- 7:30 – 15:30 Nothnagle – Avery Wall, Jeff Schwake, Anthony Fanell
- 7:30 – 18:00 JV – Jeff Brayer (Arcadis)

COMPLETED ACTIVITIES
- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting prior to onsite activities. See attached form.
- Installed Bollards
- No samples collected.

PLANNED ACTIVITIES FOR 9/15/2020 – Continue sampling at reference locations.

ARCADIS

Document Control Number: TGM - _____

TGM + project number plus date as follows: xxxxxx.xxx.xxxx - dd/mm/year

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: Hooky NEHF Bu 5/5c		**Project Location:** 2720 Lake View Rd	
Date: 9/14/10	**Time:** 7:30	**Conducted by:** J Bate	**Signature/Title:** Geologist
Client: ACOE	**Client Contact:** ACOE	**Subcontractor companies:** Matt Boyle Drilling (MBD)	

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1. Install Bollards
2. Drilling for Bollards
3. Mixing Concrete
4. Cutting Bollards
5. Grinding
6. _____

Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations: [X] If there are none, write "None" here: _____

If yes, describe them here: Bees, Expect bees in well completions

How will they be controlled? - Tap the casing & Listen, Watch.

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
[ ] Not applicable		[ ] Working at Height		[ ] Confined Space	
[ ] Energy Isolation (LOTO)		[X] Excavation/Trenching	811/LOR	[ ] Hot Work	
[ ] Mechanical Lifting Ops		[X] Overhead & Buried Utilities	811/LOR	[ ] Other permit	

Discuss following questions (for some review previous day's post activities). **Check if yes:**

[ ] Incidents from day before to review?	[X] Lessons learned from the day before?	[X] Topics from Corp H&S to cover? Covid-19
[ ] Any corrective actions from yesterday?	[ ] Will any work deviate from plan?	[ ] Any Stop Work Interventions yesterday?
[ ] JLAs or procedures are available?	[ ] Field teams to "dirty" JLAs, as needed?	[ ] If deviations, notify PM & client
[X] Staff has appropriate PPE?	[X] Staff knows Emergency Plan (EAP)?	[X] All equipment checked & OK?
		[X] Staff knows gathering points?

Comments: After Vacation - Review work area & Tools

Recognize the hazards (check all those that are discussed) (Examples are provided) and **A**ssess the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

[X] Gravity (i.e., ladder, scaffold, slips) (L M H)	[X] Motion (i.e., traffic, moving water) (L M H) unplanned Movement of Tool	[X] Mechanical (i.e., augers, motors) (L M H) Auger, Saws
[X] Electrical (i.e., utilities, lightning) (L M H) Buried - GPR + Tools	[X] Pressure (i.e., gas cylinders, wells) (L M H) Hydraulic	[X] Environment (i.e., heat, cold, ice) (L M H) Cool Mostly no Tools
[X] Chemical (i.e., fuel, acid, paint) (L M H) Bentonite Cement Glues Magnetites	[X] Biological (i.e., ticks, poison ivy) (L M H)	[X] Radiation (i.e., alpha, sun, laser) (L M H) Sun-Screen
[X] Sound (i.e., machinery, generators) (L M H) Ear protection - Drilling	[X] Personal (i.e., alone, night, not fit) (L M H) New personnel after Vacation	[X] Driving (i.e. car, ATV, boat, dozer) (L M H) Expect unplanned Movements

Continue TRACK Process on Page 2

TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss these methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes.

- [x] **STOP WORK AUTHORITY** (Must be addressed in every Tailgate meeting - (See statement's below)
- [ ] Elimination
- [ ] Engineering controls
- [x] General PPE Usage
- [x] Personal Hygiene
- [ ] Emergency Action Plan (EAP)
- [ ] JLA to be developed/used (specify)
- [ ] Substitution
- [ ] Administrative controls
- [x] Hearing Conservation
- [ ] Exposure Guidelines
- [ ] Fall Protection
- [ ] LPO conducted (specify job/JLA)
- [ ] Isolation
- [ ] Monitoring
- [x] Respiratory Protection
- [x] Decon Procedures
- [x] Work Zones/Site Control
- [ ] Traffic Control
- [ ] Other (specify)

Signature and Certification Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign in Time	Initial & Sign out Time	I have read and understand the HASP
Jeff Brady / ARCADIS	JB 7:30		JB
Avery Will / NDI	AW 7:30	AW 3:0	AW
Steve Landy / NDI	SL 7:30	SL 3:30	SL

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3844

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3844 and then Corp Legal at 1.720.344.3756

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.9598 and Corp H&S at 1.720.344.3000

Visitor Name/Co - not involved in work

In	Out

I will **STOP** the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will **be** alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB**, I will perform **TRACK**, and then amend the hazard assessments or the HASP as needed.

I will **not assist** a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:)

- [ ] Lessons learned and best practices learned today:
- [ ] Incidents that occurred today:
- [ ] Any Stop Work interventions today?
- [ ] Corrective/Preventive Actions needed for future work:
- [ ] Any other H&S issues:

Keep H&S 1st in all things

WorkCare - 1.800.455.6155
Near Loss Hotline - 1.866.242.4304

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (9/15/2020)

ONSITE DATE Tuesday 9/15/2020

ONSITE RESOURCES
- 7:30 – 15:30 Nothnagle – Avery Wall, Steve Loranty
- 7:30 – 18:30 JV – Jeff Brayer (Arcadis)
- 11:00 – 16:30 JV – Kate Clubine (Arcadis)

COMPLETED ACTIVITIES
- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting prior to onsite activities. See attached form.
- Installed bollards around wells.
- Surface soil and QC samples submitted to laboratory. No sheen, discoloration or elevated PID readings observed. Refer to boring logs for soil composition.

NHFLA-BH42-A-SEP2020	0-1' bgs
NHFLA-BH42-B-SEP2020	1-3' bgs
NHFLA-BH47-A-SEP2020	0-1' bgs
NHFLA-BH47-B-SEP2020	1-3' bgs
NHFLA-BH43-A-SEP2020	0-1' bgs
NHFLA-BH43-B-SEP2020	1-3' bgs
NHFLA-BH48-A-SEP2020	0-1' bgs
NHFLA-BH48-B-SEP2020	1-3' bgs
NHFLA-BH41-A-SEP2020	0-1' bgs
NHFLA-BH41-B-SEP2020	1-3' bgs
NHFLA-BH36-A-SEP2020	0-1' bgs
NHFLA-BH36-B-SEP2020	1-3' bgs
NHFLA-BH50-A-SEP2020	0-1' bgs
NHFLA-BH50-B-SEP2020	1-3' bgs
NHFLA-EB16-SEP2020	Equipment Blank

PLANNED ACTIVITIES FOR 9/16/2020 – Continue sampling at reference locations.

PHOTOGRAPHS

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ARCADIS

Document Control Number:TGM - _____
TGM + project number plus date as follows: mmmmmm.mm.mmm - dd/mm/year

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: NIKE Hamburg BV 51/32		Project Location: Hamburg Hof Dorf 2710 Edewecht DE	
Date: 9/15/20	Time: 730	Conducted by: J. Bates	Signature/Title: [signature] Safety Lead
Client: ACOE	Client Contact: ACOE	Subcontractor companies: Hamp Dirtwork Trucking	

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1. Soil Sorting w/ Excavator
2. S.C Sorting
3. Grading SI Surface
4. Backfilling Lake
5. Mobilize Rig
6. Decon SS

Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations: [X] If there are none, write "None" here: _____

If yes, describe them here: Poison IVY

How will they be controlled? Long pants, long sleeves, Anti-poison IVY Cream

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
[ ] Not applicable		[ ] Working at Height		[ ] Confined Space	
[ ] Energy Isolation (LOTO)		[X] Excavation/Trenching	CAR-811	[ ] Hot Work	
[ ] Mechanical Lifting Ops		[X] Overhead & Buried Utilities	CAR-811	[ ] Other permit	

Discuss following questions (for some review previous day's past activities). **Check if yes :**

[ ] Incidents from day before to review?	[ ] Lessons learned from the day before?	[ ] Topics from Corp H&S to cover?
[ ] Any corrective actions from yesterday?	[ ] Will any work deviate from plan?	[ ] Any Stop Work Interventions yesterday?
[ ] JLAs or procedures are available?	[ ] Field teams to "dirty" JLAs, as needed?	[ ] If deviations, notify PM & client
[X] Staff has appropriate PPE?	[X] Staff knows Emergency Plan (EAP)?	[X] All equipment checked & OK?
		[X] Staff knows gathering points?

Comments: _____

Recognize the hazards (check all those that are discussed) (Examples are provided) and **A**ssess the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

- [X] Gravity (i.e., ladder, scaffold, trips) (L M H): Wet Soil, uneven terrain
- [X] Motion (i.e., traffic, moving water) (L M H): Unexpected Movement of Tool
- [X] Mechanical (i.e., augers, moving): SS Sampler/Auto Hammer
- [X] Electrical (i.e., utilities, lightning) (L M H): Buried
- [X] Pressure (i.e., gas cylinders, wells) (L M H): Hydraulic
- [X] Environment (i.e., heat, cold, ice) (L M H): Cool Temp
- [X] Chemical (i.e., fuel, acid, paint) (L M H): Bentonite
- [X] Biological (i.e., ticks, poison ivy) (L M H): Poison IVY, Mosquitos
- [X] Radiation (i.e., alpha, sun, laser) (L M H): Sun-wear Sunscreen
- [X] Sound (i.e., machinery, generators) (L M H): Loud Drill SI Safety
- [X] Personal (i.e. slips, sight, not fit) (L M H): Aft New Worker Orientation
- [X] Driving (i.e. car, ATV, boat, dozer) (L M H): Daily on Site

Continue TRACK Process on Page 2

TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes.

- [x] **STOP WORK AUTHORITY** (Must be addressed in every Tailgate meeting - (See statements below)
- [ ] Elimination
- [ ] Engineering controls
- [x] General PPE Usage
- [x] Personal Hygiene
- [ ] Emergency Action Plan (EAP)
- [ ] JLA to be developed/used (specify)
- [ ] Substitution
- [ ] Administrative controls
- [x] Hearing Conservation
- [ ] Exposure Guidelines
- [ ] Fall Protection
- [ ] LPO conducted (specify job/JLA)
- [ ] Isolation
- [x] Monitoring
- [ ] Respiratory Protection
- [x] Decon Procedures
- [x] Work Zones/Site Control
- [ ] Traffic Control
- [ ] Other (specify)

Signature and Certification Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign in Time	Initial & Sign out Time	I have read and understand the HASP
	FB 7:30		FB
Jeff Braxton / Arcadis	JB 7:30	JB 18:30	JB
Aubrey Vahl / KDI	AV 7:30	AV 18:30	AV
Shaun Landy NPE	SL 7:30	SL 18:30	SL
Kate Osborne	KC 11:30	18:30	KC

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3844.

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3844 and then Corp Legal at 1.720.344.3756.

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.9596 and Corp H&S at 1.720.344.3500

Visitor Name/Co - not involved in work

In	Out

I will **STOP** the job any time anyone is concerned or uncertain about health & safety or if anyone identifies hazard or additional mitigation not recorded in the site project, job or task hazard assessment.

I will **be** alert to any changes in personnel, conditions the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB,** I will perform **TRACK**, and then amend the hazard assessments or HASP as needed.

I will **not assist** a subcontractor or other party with work unless it is absolutely necessary and then only I have done TRACK and I have thoroughly controlled hazard.

Post Daily Activities Review - Review at end of day or before next day's work. (Check those applicable and explain:)

- [ ] Lessons learned and best practices learned today:
- [ ] Incidents that occurred today:
- [ ] Any Stop Work interventions today?
- [ ] Corrective/Preventive Actions needed for future work:
- [ ] Any other H&S issues:

Keep H&S 1st in all things

WorkCare - 1.800.455.6155
Near Loss Hotline - 1.866.242.4304

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (9/16/2020)

ONSITE DATE Wednesday 9/16/2020

ONSITE RESOURCES
- 7:30 – 15:30 Nothnagle – Avery Wall, Steve Loranty
- 7:30 – 18:00 JV – Jeff Brayer (Arcadis)
- 14:00 – 18:00 JV – Kate Clubine (Arcadis)

COMPLETED ACTIVITIES
- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting prior to onsite activities. See attached form.
- Installed bollards around wells.
- Surface soil and QC samples submitted to laboratory. No sheen, discoloration or elevated PID readings observed.

NHFLA-BH40-A-SEP2020	0-1' bgs	Brown silt and clay
NHFLA-BH40-B-SEP2020	1-3' bgs	Brown silt and clay
NHFLA-DUP8-SEP2020	1-3' bgs BH40-B	Brown silt and clay
NHFLA-BH39-A-SEP2020	0-1' bgs	Brown silt with medium gravel
NHFLA-BH39-B-SEP2020	1-3' bgs	Brown silt with medium gravel
NHFLA-DUP9-SEP2020	1-3' bgs BH39-B	Brown silt with medium gravel
NHFLA-BH38-A-SEP2020	0-1' bgs	Brown silt with medium gravel
NHFLA-BH38-B-SEP2020	1-3' bgs	Brown silt with medium gravel
NHFLA-BH37-A-SEP2020	0-1' bgs	Brown silt and clay
NHFLA-BH37-B-SEP2020	1-3' bgs	Brown silt and clay
NHFLA-SL28-A-SEP2020	0-1' bgs	Brown silt
NHFLA-SL31-A-SEP2020	0-1' bgs	Brown silt
NHFLA-DUP10-SEP2020	1-3' bgs SL31-A	Brown silt
NHFLA-SL27-A-SEP2020	0-1' bgs	Brown silt
NHFLA-SL26-A-SEP2020	0-1' bgs	Brown silt
NHFLA-EB17-SEP2020		Equipment blank
NHFLA-TB19-SEP2020		Trip blank
NHFLA-TB20-SEP2020		Trip blank

PLANNED ACTIVITIES FOR 9/17/2020 – Continue sampling surface locations.

PHOTOGRAPHS

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ARCADIS

Document Control Number: TGM - _____
TGM + project number plus date as follows: xxxxxxx xxx.xxxx - dd/mm/year

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: Hanby Lake Dr 51/52			Project Location: 2700 Lakeview Rd Lake Hamilton AR
Date: 9-16-20	Time: 7:30	Conducted by: J. Bahl	Signature/Title:
Client: ACOE		Client Contact: ACOE	Subcontractor companies: Worthington Bridge Inc

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1. Unloading trailer
2. Mobilizing to Jobsite
3. Soil Sampling
4. Processing Samples
5. Hand Clearing
6. Painting Bollards

Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations ☐ If there are none, write "None" here: _____

If yes, describe them here: Poison Ivy

How will they be controlled? Pre-Dispose Clean, Wash after w/ Tecnu

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
☐ Not applicable		☐ Working at Height		☐ Confined Space	
☐ Energy Isolation (LOTO)		☒ Excavation/Trenching	OH Locate	☐ Hot Work	
☐ Mechanical Lifting Ops		☒ Overhead & Buried Utilities	OH Locate	☐ Other permit	

Discuss following questions (for some review previous day's past activities). **Check if yes:**

☒ Topics from Corp H&S to cover? Covid-19

☐ Incidents from day before to review?	☐ Lessons learned from the day befors?	☐ Any Stop Work Interventions yesterday?
☐ Any corrective actions from yesterday?	☐ Will any work deviate from plan?	☐ If deviations, notify PM & client
☐ JLAs or procedures are available?	☐ Field teams to "dirty" JLAs, as needed?	☐ All equipment checked & OK?
☒ Staff has appropriate PPE?	☒ Staff knows Emergency Plan (EAP)?	☐ Staff knows gathering points?

Comments: Maintain 6ft Separation or Wear a mask

Recognize the hazards (check all those that are discussed) (Examples are provided) and **A**ssess the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

☒ Gravity (i.e., ladder, scaffold, trips) (L M H): Slip, trips, falls	☒ Motion (i.e., traffic, moving water) (L M H): Unmarked manmade	☒ Mechanical (i.e., augers, mowers) (L M H): SS Samples
☒ Electrical (i.e., utilities, lightning) (L M H): Buried - Marked	☒ Pressure (i.e., gas cylinders, wells) (L M H): Hydraulic	☒ Environment (i.e., heat, cold, ice) (L M H): Cool mornings
☒ Chemical (i.e., fuel, acid, paint) (L M H): Bentonite, Paint	☒ Biological (i.e., ticks, poison ivy) (L M H): Poison IVY!!	☒ Radiation (i.e., alpha, sun, laser) (L M H): Wear Sun Screen
☒ Sound (i.e., machinery, generators) (L M H): Drill Steer Sampling	☒ Personal (i.e., slips, right, not fit) (L M H): Lifting	☒ Driving (i.e. car, ATV, boat, dozer) (L M H): Watch for truck traffic

Continue TRACK Process on Page 2

TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes.

- [x] **STOP WORK AUTHORITY** (Must be addressed in every Tailgate meeting - (See statements below)
- [ ] Elimination
- [ ] Engineering controls
- [x] General PPE Usage
- [ ] Personal Hygiene
- [ ] Emergency Action Plan (EAP)
- [ ] JLA to be developed/used *(specify)*
- [ ] Substitution
- [ ] Administrative controls
- [ ] Hearing Conservation
- [ ] Exposure Guidelines
- [ ] Fall Protection
- [ ] LPO conducted *(specify job/JLA)*
- [ ] Isolation
- [x] Monitoring
- [ ] Respiratory Protection
- [x] Decon Procedures
- [x] Work Zones/Site Control
- [ ] Traffic Control
- [ ] Other *(specify)*

Signature and Certification Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign in Time	Initial & Sign out Time	I have read and understand the HASP
Jeff Brooks / Arcadis	JB 7:15		JB
Steve Lomsky / NDI	SL 7:30	SL 5:30	SL
Avery Wh / NDI	AW 7:30	AW 3:5?	AW
Pete Osborne Arcadis	PO 9:00	12:00 PO	PO

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3844.

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3844 and then Corp Legal at 1.720.344.3750.

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.5559 and Corp H&S at 1.720.344.3500

Visitor Name/Co - not involved in work

	In	Out

I will **STOP** the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will **be** alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB**, I will perform **TRACK** and then amend the hazard assessments or the HASP as needed.

I will **not assist** a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:)

- [ ] Lessons learned and best practices learned today:
- [ ] Incidents that occurred today:
- [ ] Any Stop Work Interventions today?
- [ ] Corrective/Preventive Actions needed for future work:
- [ ] Any other H&S issues:

Keep H&S 1st in all things

WorkCare - 1.800.455.6155
Near Loss Hotline - 1.866.242.4304

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (9/17/2020)

ONSITE DATE Thursday 9/17/2020

ONSITE RESOURCES
- 7:00 – 15:30 Nothnagle – Avery Wall, Steve Loranty
- 7:00 – 15:30 JV – Jeff Brayer (Arcadis)

COMPLETED ACTIVITIES
- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting prior to onsite activities. See attached form.
- Installed bollards around wells.
- Decommissioned historic monitoring well ME-MW-3.
- Surface soil and QC samples submitted to laboratory. No sheen, discoloration or elevated PID readings observed.

NHFLA-SL29-A-SEP2020	0-1 bgs	Brown silt and clay
NHFLA-EB18-SEP2020		Equipment blank
NHFLA-TB21-SEP2020		Trip blank

- Surface samples were not collected from locations SL17, SL18, SL19, SL20, SL21, SL22, SL23, SL24, and SL30 due to the presence of asphalt and the absence of native material at these locations.

PLANNED ACTIVITIES FOR 9/18/2020 – Complete painting bollards. Move drums to staging area.

PHOTOGRAPHS

Above: hand dug surface location SL29.
Right: decommissioning of ME-MW-3.

ARCADIS

Document Control Number:TGM - _____
TGM + *project number plus date as follows: xxxxxxx xxx.xxxxx - dd/mm/year*

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: Mike Br 51/52			**Project Location:** 2720 Lake View Rd
Date: 9/7/20	**Time:** 7:30	**Conducted by:** Jeff Brayer	**Signature/Title:**
Client: ACME		**Client Contact:** Erin Kirby	**Subcontractor companies:**

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1. unloading trailer
2. mobilizing to drill site
3. installing/pouring bollard
4. well decommissioning
5. _____
6. _____

Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations ☐ If there are none, write "None" here: _____

If yes, describe them here: Poison ivy

How will they be controlled? long pants / sleeves / wash / poison ivy cream

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
☐ Not applicable		☐ Working at Height		☐ Confined Space	
☐ Energy Isolation (LOTO)		☒ Excavation/Trenching	TH 6PR	☐ Hot Work	
☐ Mechanical Lifting Ops		☒ Overhead & Buried Utilities	BH 6PR	☐ Other permit	

Discuss following questions (for some review previous day's post activities). **Check if yes :**

☐ Incidents from day before to review?	☐ Lessons learned from the day before?	☒ Topics from Corp H&S to cover? Covid
☐ Any corrective actions from yesterday?	☐ Will any work deviate from plan?	☐ Any Stop Work Interventions yesterday?
☐ JLAs or procedures are available?	☐ Field teams to "dirty" JLAs, as needed?	☐ If deviations, notify PM & client
☐ Staff has appropriate PPE?	☒ Staff knows Emergency Plan (EAP)?	☐ All equipment checked & OK?
		☐ Staff knows gathering points?

Comments: Maintain 6 ft / wear mask

Recognize the hazards (check all those that are discussed) (Examples are provided) and **A**ssess the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

☒ Gravity (i.e., ladder, scaffold, roller) (L M H): slip/trip/fall	☒ Motion (i.e., traffic, moving water) (L M H): unexpected movement	☒ Mechanical (i.e., augers, motors) (L M H): hand tools
☒ Electrical (i.e., utilities, lightning) (L M H): buried/marked	☒ Pressure (i.e., gas cylinders, wells) (L M H): hydraulic	☒ Environment (i.e., heat, cold, ice) (L M H): cool mornings
☒ Chemical (i.e., fuel, acid, paint) (L M H): hydraulic/paint	☒ Biological (i.e., ticks, poison ivy) (L M H): poison ivy/covid	☒ Radiation (i.e., alpha, sun, laser) (L M H): sun block
☒ Sound (i.e., machinery, generators) (L M H): generators	☒ Personal (i.e., strain, night, not fit) (L M H): lifting	☒ Driving (i.e., car, ATV, boat, dozer) (L M H): truck traffic

Continue TRACK Process on Page 2

TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes.

- [x] **STOP WORK AUTHORITY** (Must be addressed in every Tailgate meeting - (See statements below)
- [ ] Elimination
- [ ] Engineering controls
- [x] General PPE Usage
- [ ] Personal Hygiene
- [ ] Emergency Action Plan (EAP)
- [ ] JLA to be developed/used *(specify)*
- [ ] Substitution
- [ ] Administrative controls
- [ ] Hearing Conservation
- [ ] Exposure Guidelines
- [ ] Fall Protection
- [ ] LPO conducted *(specify job/JLA)*
- [ ] Isolation
- [x] Monitoring
- [ ] Respiratory Protection
- [x] Decon Procedures
- [x] Work Zones/Site Control
- [ ] Traffic Control
- [ ] Other *(specify)*

Signature and Certification Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign in Time	Initial & Sign out Time	I have read and understand the HASP
Steve Lomity NDE	0700	1930	SL
Avery Ush NDE	0700	1930	AU
Jeff Bass JB	7:00	1:00	JB

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3644

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3644 and then Corp Legal at 1.720.344.3758.

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.1656 and Corp H&S at 1.720.344.3500

Visitor Name/Co - not involved in work

	In	Out

I will **STOP** the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB**, I will perform **TRACK** and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:)

- [ ] Lessons learned and best practices learned today:
- [ ] Incidents that occurred today:
- [ ] Any Stop Work Interventions today?
- [ ] Corrective/Preventive Actions needed for future work:
- [ ] Any other H&S issues:

Keep H&S 1st in all things

WorkCare - 1.800.455.6155
Near Loss Hotline - 1.866.242.4304

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (9/18/2020)

ONSITE DATE Friday 9/18/2020

ONSITE RESOURCES
- 7:00 – 13:00 Nothnagle – Avery Wall, Steve Loranty
- 7:00 – 18:15 JV – Jeff Brayer (Arcadis)
- 10:00 – 18:00 JV – Kate Clubine (Arcadis)

COMPLETED ACTIVITIES
- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting prior to onsite activities. See attached form.
- Finished painting of bollards and relocated drums to staging area. Nothnagle demobilized from site.
- Completed well development of MW1OB and started well development of MW1BR, which ran dry.

PLANNED ACTIVITIES FOR 9/21/2020 – Continue well development.

PHOTOGRAPHS

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Well development of MW1BR

Well development of MW1OB

Example of painted bollards and finished wells

ARCADIS Document Control Number:TGM -

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: Mile Bay 5/157		Project Location: 2220 Lakeview Rd	
Date: 9-10-20	Time: 7:00	Conducted by: Jeff Bruyer	Signature/Title: Jeff Bruyer
Client: AECOM		Client Contact: Erin Kirby	Subcontractor Companies: Watanagle

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1. unloading trailer
2. painting bollards
3. drum management
4.
5.
6.

Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations ☐ If there are none, write "None" here:

If yes, describe them here: COVID / poison ivy

How will they be controlled? 6 feet / mask - long sleeves / pants, wash

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
☐ Not applicable		☐ Working at Height		☐ Confined Space	
☐ Energy Isolation (LOTO)		☐ Excavation/Trenching		☐ Hot Work	
☐ Mechanical Lifting Ops		☐ Overhead & Buried Utilities		☐ Other permit	

Discuss following questions (for some review previous day's past activities). **Check if yes :**

☐ Incidents from day before to review?	☐ Lessons learned from the day before?	☒ Topics from Corp H&S to cover? COVID
☐ Any corrective actions from yesterday?	☐ Will any work deviate from plan?	☐ Any Stop Work Interventions yesterday?
☐ JLAs or procedures are available?	☐ Field teams to "dirty" JLAs, as needed?	☐ If deviations, notify PM & client
☐ Staff has appropriate PPE?	☒ Staff knows Emergency Plan (EAP)?	☐ All equipment checked & OK?
		☐ Staff knows gathering points?

Comments:

Recognize the hazards (check all those that are discussed) (Examples are provided) and **A**ssess the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

☒ Gravity (i.e., ladder, scaffold, trips) (L M H): slip / trip / fall	☒ Motion (i.e., traffic, moving water) (L M H): unexpected movement	☒ Mechanical (i.e., augers, motors) (L M H): hand tools
☐ Electrical (i.e., utilities, lightning) (L M H)	☐ Pressure (i.e., gas cylinders, wells) (L M H)	☒ Environment (i.e., heat, cold, ice) (L M H): cold mornings
☒ Chemical (i.e., fuel, acid, paint) (L M H): paint	☒ Biological (i.e., ticks, poison ivy) (L M H): covid / poison ivy	☐ Radiation (i.e., alpha, sun, laser) (L M H): sun block
☒ Sound (i.e., machinery, generators) (L M H): gas range	☒ Personal (i.e., alone, night, not fit) (L M H): lifting	☐ Driving (i.e., car, ATV, boat, dozer) (L M H): truck traffic

Continue TRACK Process on Page 2

TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes.

- [x] **STOP WORK AUTHORITY** (Must be addressed in every Tailgate meeting - (*See statements below*)
- [ ] Elimination
- [ ] Engineering controls
- [x] General PPE Usage
- [ ] Personal Hygiene
- [ ] Emergency Action Plan (EAP)
- [ ] JLA to be developed/used *(specify)*
- [ ] Substitution
- [ ] Administrative controls
- [ ] Hearing Conservation
- [ ] Exposure Guidelines
- [ ] Fall Protection
- [ ] LPO conducted *(specify job/JLA)*
- [ ] Isolators
- [x] Monitoring
- [ ] Respiratory Protection
- [x] Decon Procedures
- [x] Work Zones/Site Control
- [ ] Traffic Control
- [ ] Other *(specify)*

Signature and Certification Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign in Time	Initial & Sign out Time	I have read and understand the HASP
Avery Lail NDI	AL 7:00	AL 18:00	AL
Steven Lofferty NDI	SL 7:00	SL 18:00	SL
Kate Claborne Arcadis	KC 10:00	18:00 KC	KC
Jeff Baker Arcadis	JB 7:30	19:15	JB

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3844.

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3844 and then Corp Legal at 1.720.344.3756.

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.6556 and Corp H&S at 1.720.344.3600

Visitor Name/Co - not involved in work

	In	Out
	In	Out
	In	Out
	In	Out

I will **STOP** the job any time anyone is concerned or uncertain about health & safety or if anyone identifies hazard or additional mitigation not recorded in the site project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB**, I will perform **TRACK**, and then amend the hazard assessments o HASP as needed.

I will not assist a subcontractor or other party with t work unless it is absolutely necessary and then only I have done TRACK and I have thoroughly controlle hazard.

Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:)

- [ ] Lessons learned and best practices learned today:
- [ ] Incidents that occurred today:
- [ ] Any Stop Work interventions today?
- [ ] Corrective/Preventive Actions needed for future work:
- [ ] Any other H&S: issues:

Keep H&S 1st in all things

WorkCare - 1.800.455.6155
Near Loss Hotline - 1.866.242.4304

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (9/21/2020)

ONSITE DATE Monday 9/21/2020

ONSITE RESOURCES
- 10:00 – 18:00 JV – Kate Clubine, Kim Stilson (Arcadis)
- 12:30 – 18:00 JV – Josh Duquette (Arcadis)

COMPLETED ACTIVITIES
- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting and site tour prior to onsite activities. See attached form.
- Completed well development of MW2, MW3, MW5BR, MW5OB.

PLANNED ACTIVITIES FOR 9/22/2020 – Continue well development.

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SERES Engineering & Services, LLC
ARCADIS
a joint venture

ARCADIS

Document Control Number TGM - _____
TGM + project number plus date as follows: xxxxxxx xxx xxxx - dd/mm/year

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: Hamburg NY NIKE BU 51/52			Project Location: 2720 Lakeview Rd Lakeview NY
Date: 9/21/2020	Time: 10:00	Conducted by: Jeff Brayer	Signature/Title:
Client: ACOE		Client Contact: ACOE	Subcontractor companies:

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1. mob/demob
2. groundwater development
3. _____
5. _____
6. _____

Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations: [X]

If there are none, write "None" here: _____

If yes, describe them here: COVID

How will they be controlled? PPE - 6 foot distance, wash hands

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
[X] Not applicable		[ ] Working at Height		[ ] Confined Space	
[ ] Energy Isolation (LOTO)		[ ] Excavation/Trenching		[ ] Hot Work	
[ ] Mechanical Lifting Ops		[ ] Overhead & Buried Utilities		[ ] Other permit	

Discuss following questions (for some review previous day's work activities). **Check if yes:**

[ ] Incidents from day before to review?	[ ] Lessons learned from the day before?	[ ] Any Stop Work Interventions yesterday?
[ ] Any corrective actions from yesterday?	[ ] Will any work deviate from plan?	[ ] If deviations, notify PM & client
[X] JLAs or procedures are available?	[ ] Field teams to "dirty" JLAs, as needed?	[X] All equipment checked & OK?
[X] Staff has appropriate PPE?	[ ] Staff knows Emergency Plan (EAP)?	[X] Staff knows gathering points?

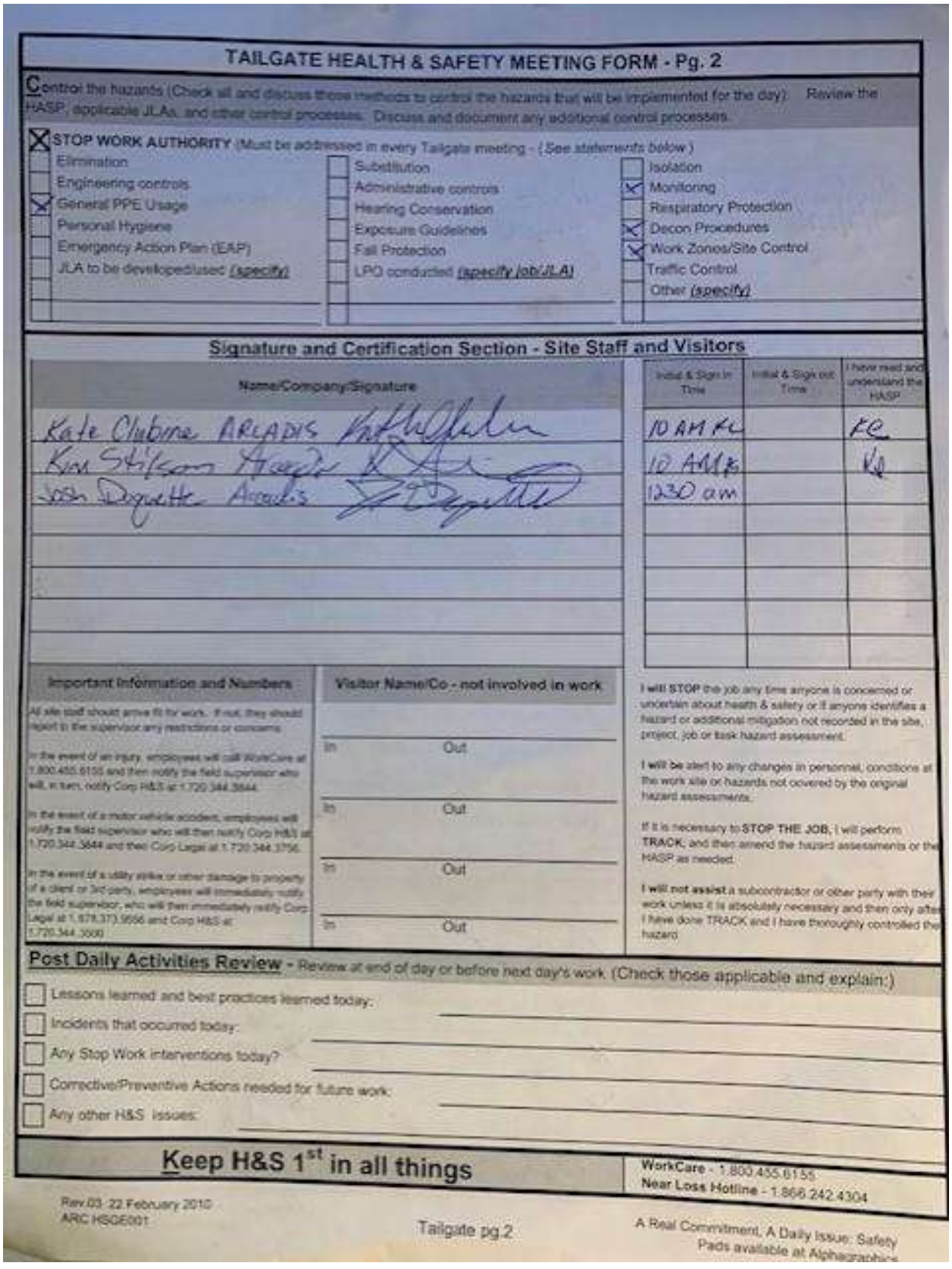
[ ] Topics from Corp H&S to cover?

Comments: _____

Recognize the hazards (check all those that are discussed) (Examples are provided) and **A**ssess the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

[X] Gravity (i.e., ladder, scaffold, rope) (L M H): slips, trips and falls	[X] Motion (i.e., traffic, moving water) (L M H): unexpected movement	[X] Mechanical (i.e., augers, motors) (L M H): sampling equipment
[ ] Electrical (i.e., utilities, lightning) (L M H)	[ ] Pressure (i.e., gas cylinders, wells) (L M H)	[X] Environment (i.e., heat, cold, ice) (L M H): cold mornings
[ ] Chemical (i.e., fuel, acid, paint) (L M H)	[X] Biological (i.e., ticks, poison ivy) (L M H): ticks	[X] Radiation (i.e., alpha, sun, laser) (L M H): sun block
[X] Sound (i.e., machinery, generators) (L M H): gun range	[X] Personal (i.e. alone, night, not fit) (L M H): lifting	[X] Driving (i.e. car, ATV, boat, dozer) (L M H): watch for truck traffic

Continue TRACK Process on Page 2



TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes.

☒ **STOP WORK AUTHORITY** (Must be addressed in every Tailgate meeting - *(See statements below)*

☐ Elimination	☐ Substitution	☐ Isolation
☐ Engineering controls	☐ Administrative controls	☑ Monitoring
☑ General PPE Usage	☐ Hearing Conservation	☐ Respiratory Protection
☐ Personal Hygiene	☐ Exposure Guidelines	☑ Decon Procedures
☐ Emergency Action Plan (EAP)	☐ Fall Protection	☑ Work Zones/Site Control
☐ JLA to be developed/used *(specify)*	☐ LPO conducted *(specify job/JLA)*	☐ Traffic Control
		☐ Other *(specify)*

Signature and Certification Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign in Time	Initial & Sign out Time	I have read and understand the HASP
Kate Clubine ARCADIS	10 AM KC		KC
Kari Stidham Arcadis	10 AM KS		KS
Josh Duquette Arcadis	1230 am		

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3644.

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3644 and then Corp Legal at 1.720.344.3756.

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.9556 and Corp H&S at 1.720.344.3000

Visitor Name/Co - not involved in work

	In	Out

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to STOP THE JOB, I will perform TRACK, and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

Post Daily Activities Review - Review at end of day or before next day's work. (Check those applicable and explain:)

- ☐ Lessons learned and best practices learned today:
- ☐ Incidents that occurred today:
- ☐ Any Stop Work interventions today?
- ☐ Corrective/Preventive Actions needed for future work:
- ☐ Any other H&S issues:

Keep H&S 1st in all things

WorkCare - 1.800.455.6155
Near Loss Hotline - 1.866.242.4304

Rev.03 22 February 2010
ARC HSGE001

Tailgate pg 2

A Real Commitment, A Daily Issue. Safety Pads available at Alphagraphics

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (9/22/2020)

ONSITE DATE Tuesday 9/22/2020

ONSITE RESOURCES
- 10:00 – 18:00 JV – Kate Clubine, Kim Stilson (Arcadis)
- 12:30 – 18:00 JV – Josh Duquette (Arcadis)

COMPLETED ACTIVITIES
- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting and site tour prior to onsite activities. See attached form.
- Completed well development of MW4OB, MW4BR, MW6, MW7BR, MW11, MW12, MW15, and MW16.Development of MW9BR was started, but the well went dry.

PLANNED ACTIVITIES FOR 9/23/2020 – Continue well development and start sampling.

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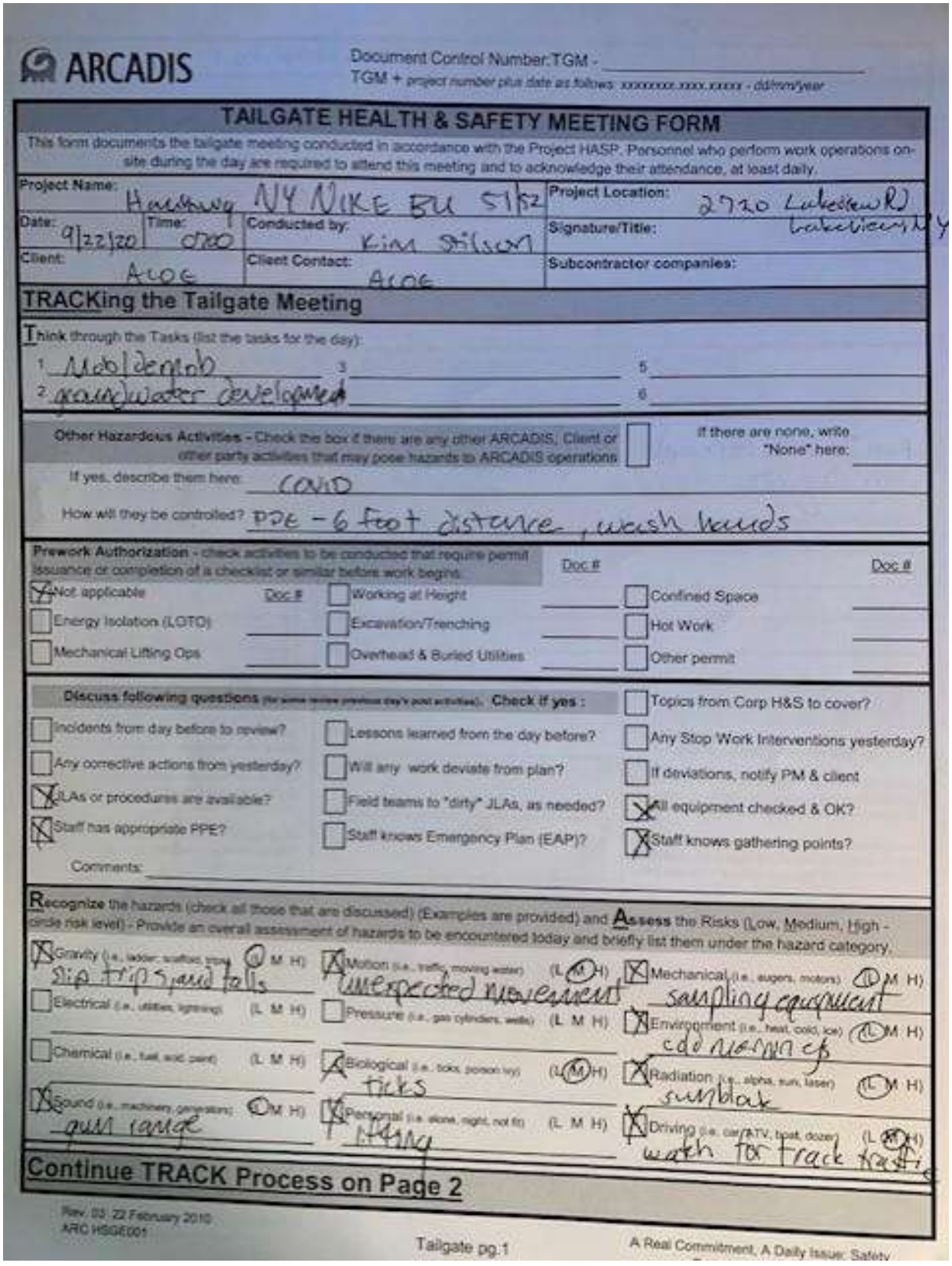
SERES Engineering & Services, LLC
ARCADIS
a joint venture



ARCADIS

Document Control Number: TGM - _____
TGM + project number plus date as follows: xxxxxxx.xxx.xxxx - dd/mm/year

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: Hamburg NY Nike BU 51/52			Project Location: 2720 Lakeview RD
Date: 9/22/20	Time: 0720	Conducted by: Kim Stilson	Signature/Title: Lakeview NY
Client: AECOM	Client Contact: AECOM		Subcontractor companies:

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1. Mobilization
2. groundwater development
3. _____
4. _____
5. _____
6. _____

Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations ☐ If there are none, write "None" here: _____

If yes, describe them here: COVID

How will they be controlled? PPE - 6 foot distance, wash hands

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins

	Doc #		Doc #		Doc #
☒ Not applicable		☐ Working at Height		☐ Confined Space	
☐ Energy Isolation (LOTO)		☐ Excavation/Trenching		☐ Hot Work	
☐ Mechanical Lifting Ops		☐ Overhead & Buried Utilities		☐ Other permit	

Discuss following questions (for some review previous day's post activities). **Check if yes :**

☐ Incidents from day before to review?	☐ Lessons learned from the day before?	☐ Topics from Corp H&S to cover?
☐ Any corrective actions from yesterday?	☐ Will any work deviate from plan?	☐ Any Stop Work Interventions yesterday?
☒ JLAs or procedures are available?	☐ Field teams to "dirty" JLAs, as needed?	☐ If deviations, notify PM & client
☒ Staff has appropriate PPE?	☐ Staff knows Emergency Plan (EAP)?	☒ All equipment checked & OK?
		☒ Staff knows gathering points?

Comments: _____

Recognize the hazards (check all those that are discussed) (Examples are provided) and **A**ssess the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

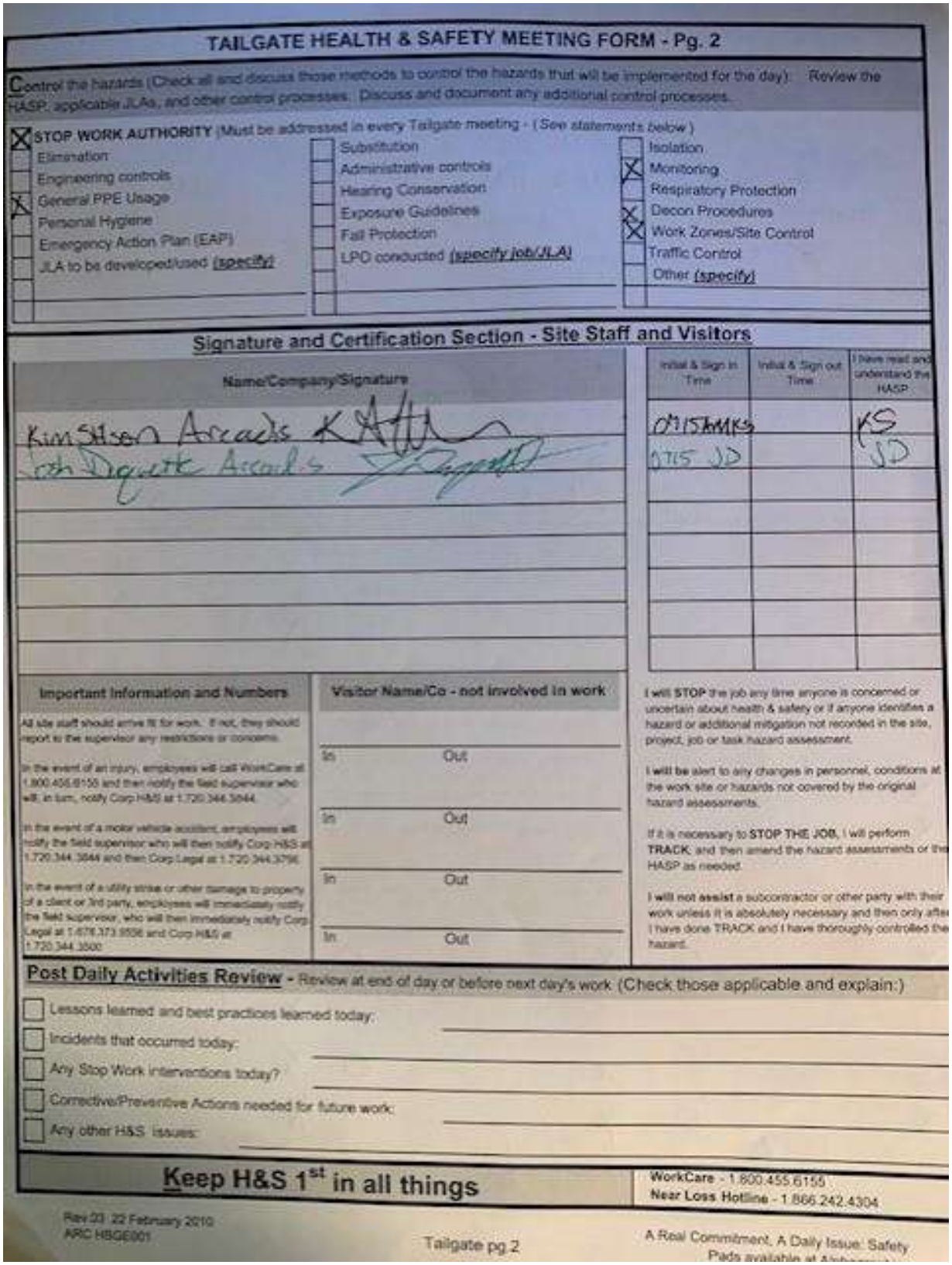
☒ Gravity (i.e., ladder, scaffold, trips) (L M H): slip trips and falls	☒ Motion (i.e., traffic, moving water) (L M H): unexpected movement	☒ Mechanical (i.e., augers, motors) (L M H): sampling equipment
☐ Electrical (i.e., utilities, lightning) (L M H)	☐ Pressure (i.e., gas cylinders, wells) (L M H)	☒ Environment (i.e., heat, cold, ice) (L M H): cold weather ops
☐ Chemical (i.e., fuel, acid, paint) (L M H)	☒ Biological (i.e., ticks, poison ivy) (L M H): ticks	☒ Radiation (i.e., alpha, sun, laser) (L M H): sunblock
☒ Sound (i.e., machinery, generators) (L M H): gun range	☒ Personal (i.e., alone, night, not fit) (L M H): hiking	☒ Driving (i.e., car, ATV, boat, dozer) (L M H): watch for truck traffic

Continue TRACK Process on Page 2

Rev. 03 22 February 2010
ARC HSGE001

Tailgate pg:1

A Real Commitment, A Daily Issue: Safety



TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes.

- [x] **STOP WORK AUTHORITY** (Must be addressed in every Tailgate meeting - (See statements below)
- [ ] Elimination
- [ ] Engineering controls
- [x] General PPE Usage
- [ ] Personal Hygiene
- [ ] Emergency Action Plan (EAP)
- [ ] JLA to be developed/used (specify)
- [ ] Substitution
- [ ] Administrative controls
- [ ] Hearing Conservation
- [ ] Exposure Guidelines
- [ ] Fall Protection
- [ ] LPO conducted (specify job/JLA)
- [ ] Isolation
- [x] Monitoring
- [ ] Respiratory Protection
- [x] Decon Procedures
- [x] Work Zones/Site Control
- [ ] Traffic Control
- [ ] Other (specify)

Signature and Certification Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign in Time	Initial & Sign out Time	I have read and understand the HASP
Kim Stilson Arcadis KA	0715 KMKS		KS
Josh Diguette Arcadis JD	0715 JD		JD

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3644.

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3644 and then Corp Legal at 1.720.344.3756.

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.9556 and Corp H&S at 1.720.344.3500.

Visitor Name/Co - not involved in work

In	Out

I will **STOP** the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB**, I will perform **TRACK** and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:)

- [ ] Lessons learned and best practices learned today:
- [ ] Incidents that occurred today:
- [ ] Any Stop Work interventions today?
- [ ] Corrective/Preventive Actions needed for future work:
- [ ] Any other H&S issues:

Keep H&S 1st in all things

WorkCare - 1.800.455.6155
Near Loss Hotline - 1.866.242.4304

Rev 03 22 February 2019
ARC HSGE001

Tailgate pg 2

A Real Commitment, A Daily Issue: Safety

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (9/23/2020)

ONSITE DATE Wednesday 9/23/2020

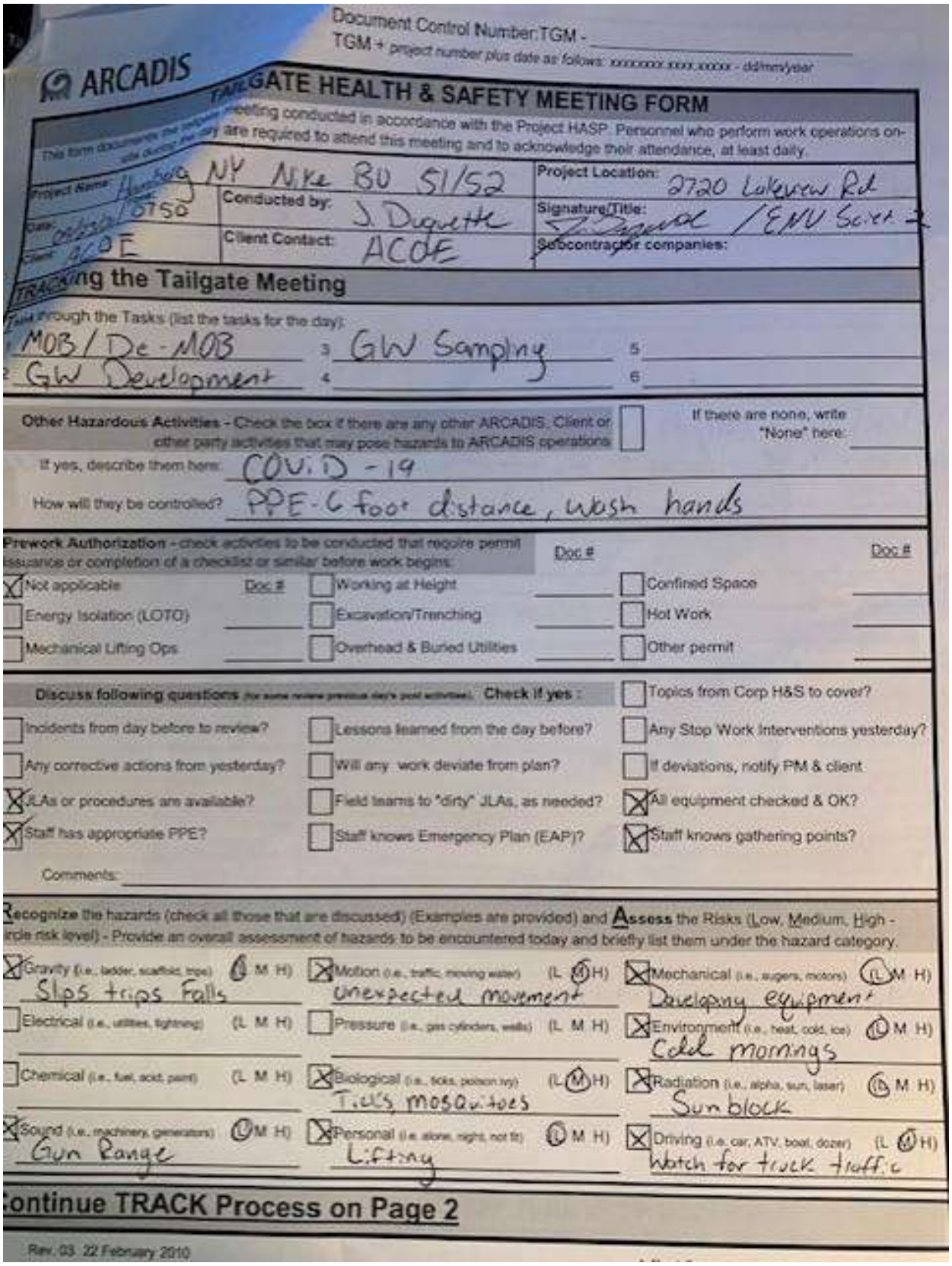
ONSITE RESOURCES
- 10:00 – 18:00 JV – Kim Stilson (Arcadis)
- 7:30 – 18:00 JV – Josh Duquette (Arcadis)

COMPLETED ACTIVITIES
- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting and site tour prior to onsite activities. See attached form.
- Completed well development of MW5OB and MW14. Continued development of MW9BR, but the well went dry.
- Sampled the following wells:
  - NHFLA-MW2-SEP2020
  - NHFLA-MS6-SEP2020 – parent is MW2
  - NHFLA-MSD6-SEP2020 – parent is MW2
  - NHFLA-DUP11-SEP2020 – parent is MW2
  - NHFLA-MW5OB-SEP2020
  - NHFLA-MS7-SEP2020 – parent is MW5OB
  - NHFLA-MSD7-SEP2020 – parent is MW5OB
  - NHFLA-EB19-SEP2020
  - NHFLA-TB22-SEP2020
  - NHFLA-TB23-SEP2020

PLANNED ACTIVITIES FOR 9/24/2020 – Continue well development and sampling.

PHOTOGRAPHS

. Example sampling set-up with peristaltic pump and YSI



Document Control Number:TGM - _____
TGM = project number plus date as follows: xxxxxxx xxxx_xxxxx - dd/mm/year

ARCADIS

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: Hamburg NY Nike BU 51/52		Project Location: 2720 Lakeview Rd	
Date: 9/23/20 0750	Conducted by: J. Duquette	Signature/Title: [signature] / ENV Scientist 2	
Client: ACOE	Client Contact: ACOE	Subcontractor companies:	

TRACKing the Tailgate Meeting

Talk through the Tasks (list the tasks for the day):

1 MOB / De-MOB 3 GW Sampling 5 _____
2 GW Development 4 _____ 6 _____

Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations ☐ If there are none, write "None" here: _____

If yes, describe them here: COVID-19

How will they be controlled? PPE-6 foot distance, wash hands

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
☒ Not applicable		☐ Working at Height		☐ Confined Space	
☐ Energy Isolation (LOTO)		☐ Excavation/Trenching		☐ Hot Work	
☐ Mechanical Lifting Ops		☐ Overhead & Buried Utilities		☐ Other permit	

Discuss following questions (for some review previous day's post activities). **Check if yes:**

☐ Incidents from day before to review?	☐ Lessons learned from the day before?	☐ Any Stop Work Interventions yesterday?
☐ Any corrective actions from yesterday?	☐ Will any work deviate from plan?	☐ If deviations, notify PM & client
☒ JLAs or procedures are available?	☐ Field teams to "dirty" JLAs, as needed?	☒ All equipment checked & OK?
☒ Staff has appropriate PPE?	☐ Staff knows Emergency Plan (EAP)?	☒ Staff knows gathering points?

☐ Topics from Corp H&S to cover?

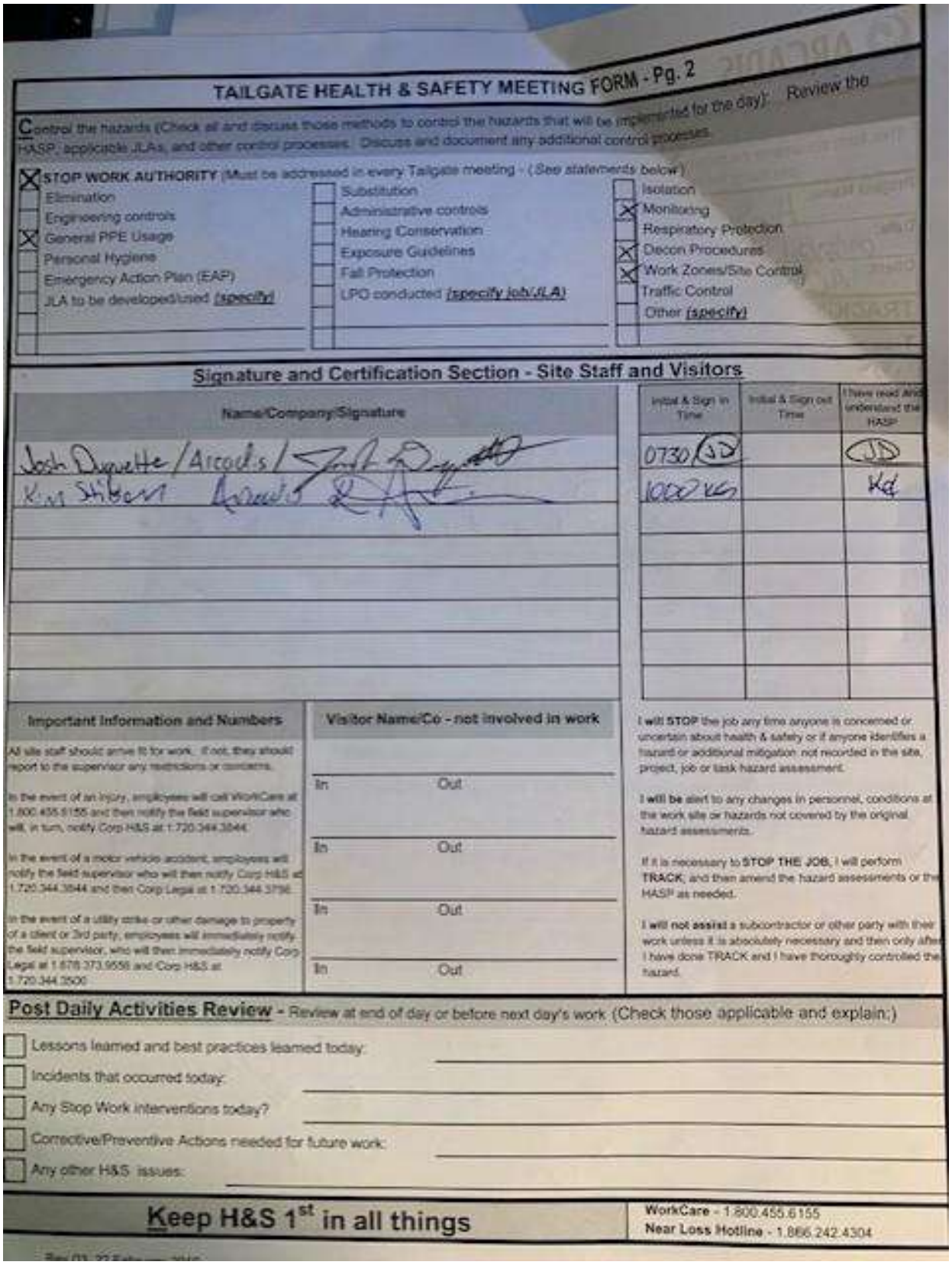
Comments: _____

Recognize the hazards (check all those that are discussed) (Examples are provided) and **Assess** the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

☒ Gravity (i.e., ladder, scaffold, trips) (L M H) Slips trips Falls	☒ Motion (i.e., traffic, moving water) (L M H) unexpected movement	☒ Mechanical (i.e., augers, motors) (L M H) Developing equipment
☐ Electrical (i.e., utilities, lightning) (L M H)	☐ Pressure (i.e., gas cylinders, wells) (L M H)	☒ Environment (i.e., heat, cold, ice) (L M H) Cold mornings
☐ Chemical (i.e., fuel, acid, paint) (L M H)	☒ Biological (i.e., ticks, poison ivy) (L M H) Tick's mosquitoes	☒ Radiation (i.e., alpha, sun, laser) (L M H) Sun block
☒ Sound (i.e., machinery, generators) (L M H) Gun Range	☒ Personal (i.e. alone, night, not fit) (L M H) Lifting	☒ Driving (i.e. car, ATV, boat, dozer) (L M H) Watch for truck traffic

Continue TRACK Process on Page 2

Rev. 03 22 February 2010



TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes.

- [x] STOP WORK AUTHORITY (Must be addressed in every Tailgate meeting - (See statements below)
- [ ] Elimination
- [ ] Engineering controls
- [x] General PPE Usage
- [ ] Personal Hygiene
- [ ] Emergency Action Plan (EAP)
- [ ] JLA to be developed/used (specify)
- [ ] Substitution
- [ ] Administrative controls
- [ ] Hearing Conservation
- [ ] Exposure Guidelines
- [ ] Fall Protection
- [ ] LPO conducted (specify job/JLA)
- [ ] Isolation
- [x] Monitoring
- [ ] Respiratory Protection
- [x] Decon Procedures
- [x] Work Zones/Site Control
- [ ] Traffic Control
- [ ] Other (specify)

Signature and Certification Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign in Time	Initial & Sign out Time	I have read and understand the HASP
Josh Duquette / Arcadis /	0730 JD		JD
Kim Stibora Arcadis	1000 KS		KS

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3844.

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3844 and then Corp Legal at 1.720.344.3736.

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.9556 and Corp H&S at 1.720.344.3500.

Visitor Name/Co - not involved in work

	In	Out

I will **STOP** the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB**, I will perform **TRACK**, and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:)

- [ ] Lessons learned and best practices learned today:
- [ ] Incidents that occurred today:
- [ ] Any Stop Work interventions today?
- [ ] Corrective/Preventive Actions needed for future work:
- [ ] Any other H&S issues:

Keep H&S 1st in all things

WorkCare - 1.800.455.6155
Near Loss Hotline - 1.866.242.4304

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (9/24/2020)

ONSITE DATE Thursday 9/24/2020

ONSITE RESOURCES

- 10:00 – 18:00 JV – Kim Stilson, Josh Duquette, Kate Clubine (Arcadis)

COMPLETED ACTIVITIES

- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting and site tour prior to onsite activities. See attached form.
- Completed well development of MW1BR and MW9BR.
- Sampled the following wells:
  - NHFLA-MW16-SEP2020
  - NHFLA-MW3-SEP2020
  - NHFLA-MW12-SEP2020
  - NHFLA-MW6-SEP2020
  - NHFLA-MW13-SEP2020
  - NHFLA-MW14-SEP2020
  - NHFLA-DUP12-SEP2020 – parent is MW14
  - NHFLA-MW10-SEP2020
  - NHFLA-EB20-SEP2020
  - NHFLA-TB24-SEP2020
  - NHFLA-TB25-SEP2020

PLANNED ACTIVITIES FOR 9/25/2020 – Continue sampling.

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SERES Engineering & Services, LLC
ARCADIS
a joint venture

ARCADIS

Document Control Number: TGM - _____
TGM + project number plus date as follows: xxxxxxxx.xxxx.xxxxx - dd/mm/year

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: Nike Bu 51/52		Project Location: 2770 Lakeview Rd	
Date: 9/24/20	Time: 10:00	Conducted by: Kate Clubine	Signature/Title:
Client: ACOS	Client Contact: Erin Kirby		Subcontractor companies: N/A

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1 groundwater sampling
2
5
6

Other Hazardous Activities - Check the box if there are any other Arcadis, Client or other party activities that may pose hazards to Arcadis operations ☐ If there are none, write "None" here: _____

If yes, describe them here: covid 19

How will they be controlled? PPE / mask / 6 feet / wash

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
☒ Not applicable		☐ Working at Height		☐ Confined Space	
☐ Energy Isolation (LOTO)		☐ Excavation/Trenching		☐ Hot Work	
☐ Mechanical Lifting Ops		☐ Overhead & Buried Utilities		☐ Other permit	

Discuss following questions (for some review previous day's past activities). Check if yes :

☐ Incidents from day before to review?	☐ Lessons learned from the day before?	☐ Topics from Corp H&S to cover?
☐ Any corrective actions from yesterday?	☐ Will any work deviate from plan?	☐ Any Stop Work Interventions yesterday
☑ JSAs or procedures are available?	☐ Field teams to "dirty" JSAs, as needed?	☐ If deviations, notify PM & client
☑ Staff has appropriate PPE?	☐ Staff knows Emergency Plan (EAP)?	☐ All equipment checked & OK?
		☐ Staff knows gathering points?

Comments: _____

Recognize the hazards (check all those that are discussed) (Examples are provided) and **A**ssess the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

☒ Gravity (i.e., ladder, scaffold, trips) (L M H): slip / trip fall	☒ Motion (i.e., traffic, moving water) (L M H): unexpected movement	☒ Mechanical (i.e., augers, motors) (L M H): pinch points
☐ Electrical (i.e., utilities, lightning) (L M H)	☐ Pressure (i.e. gas cylinders, wells) (L M H)	☒ Environment (i.e., heat, cold, ice) (L M H): cool morning
☐ Chemical (i.e., fuel, acid, paint) (L M H)	☒ Biological (i.e., bees, poison ivy) (L M H): bugs / covid	☒ Radiation (i.e., alpha, sun, laser) (L M H): sun block
☒ Sound (i.e., machinery, generators) (L M H): cyber noise	☒ Personal (i.e., alone, night, not fit) (L M H): lifting	☒ Driving (i.e., car, ATV, boat, dozer) (L M H): truck traffic

Continue TRACK Process on Page 2

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (9/25/2020)

ONSITE DATE Friday 9/25/2020

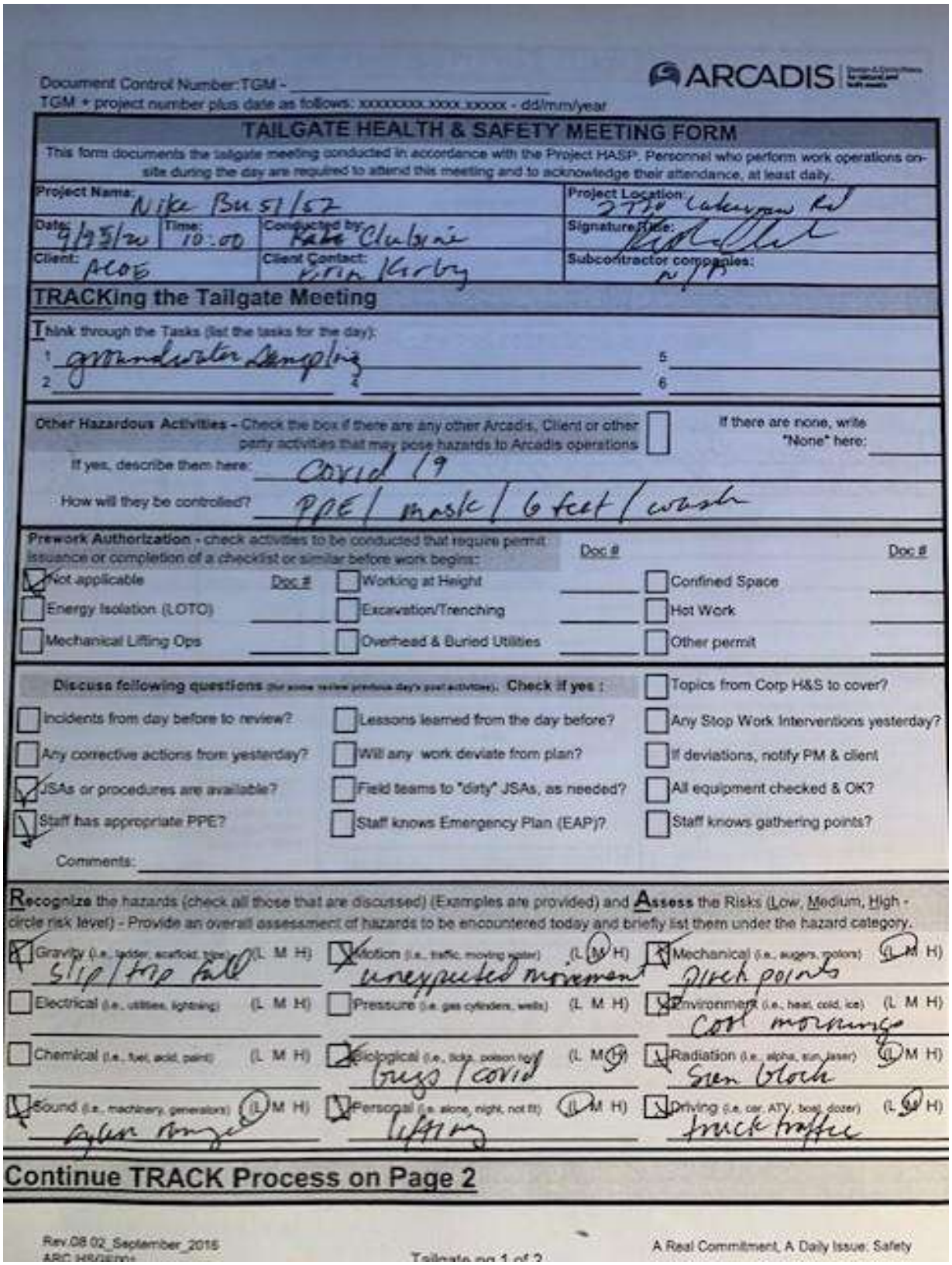
ONSITE RESOURCES

- 10:00 – 18:00 JV – Kim Stilson, Josh Duquette, Kate Clubine (Arcadis)

COMPLETED ACTIVITIES

- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting and site tour prior to onsite activities. See attached form.
- Sampled the following wells:
  - NHFLA-MW8-SEP2020
  - NHFLA-MW15-SEP2020
  - NHFLA-MW9OB-SEP2020
  - NHFLA-MW14-SEP2020
  - NHFLA-MW11-SEP2020
  - NHFLA-MW9BR-SEP2020
  - NHFLA-EB21-SEP2020
  - NHFLA-TB26-SEP2020
  - NHFLA-TB27-SEP2020

PLANNED ACTIVITIES FOR 9/29/2020 – Continue sampling.



Document Control Number: TGM - _____
TGM + project number plus date as follows: xxxxxxxx.xxxx.xxxxx - dd/mm/year

ARCADIS

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: Nike Bu 51/52		Project Location: 2770 Lakeview Rd	
Date: 9/25/20	Time: 10:00	Conducted by: Kate Clubine	Signature: Kate Clubine
Client: ALOE		Client Contact: Erin Kirby	Subcontractor companies: N/A

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1 groundwater sampling
2
3
4
5
6

Other Hazardous Activities – Check the box if there are any other Arcadis, Client or other party activities that may pose hazards to Arcadis operations ☐ If there are none, write "None" here: _____

If yes, describe them here: covid 19

How will they be controlled? PPE / mask / 6 feet / wash

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
☒ Not applicable		☐ Working at Height		☐ Confined Space	
☐ Energy Isolation (LOTO)		☐ Excavation/Trenching		☐ Hot Work	
☐ Mechanical Lifting Ops		☐ Overhead & Buried Utilities		☐ Other permit	

Discuss following questions (for crew review previous day's past activities). **Check if yes :**

☐ Incidents from day before to review?	☐ Lessons learned from the day before?	☐ Topics from Corp H&S to cover?
☐ Any corrective actions from yesterday?	☐ Will any work deviate from plan?	☐ Any Stop Work Interventions yesterday?
☑ JSAs or procedures are available?	☐ Field teams to "dirty" JSAs, as needed?	☐ If deviations, notify PM & client
☑ Staff has appropriate PPE?	☐ Staff knows Emergency Plan (EAP)?	☐ All equipment checked & OK?
		☐ Staff knows gathering points?

Comments: _____

Recognize the hazards (check all those that are discussed) (Examples are provided) and **Assess** the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

☒ Gravity (i.e., ladder, scaffold, trips) slip / trip fall (L M H)	☒ Motion (i.e., traffic, moving water) unexpected movement (L M H)	☒ Mechanical (i.e., augers, rotors) pinch points (L M H)
☐ Electrical (i.e., utilities, lightning) (L M H)	☐ Pressure (i.e. gas cylinders, wells) (L M H)	☒ Environment (i.e., heat, cold, ice) cool mornings (L M H)
☐ Chemical (i.e., fuel, acid, paint) (L M H)	☒ Biological (i.e., ticks, poison ivy) bugs / covid (L M H)	☒ Radiation (i.e., alpha, sun, laser) sun block (L M H)
☒ Sound (i.e., machinery, generators) (L M H)	☒ Personal (i.e. alone, night, not fit) (L M H)	☒ Driving (i.e. car, ATV, boat, dozer) truck traffic (L M H)

Continue TRACK Process on Page 2

SERES Engineering & Services, LLC
ARCADIS
a joint venture

TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JSAs, and other control processes. Discuss and document any additional control processes.

- [x] **STOP WORK AUTHORITY** (Must be addressed in every Tailgate meeting - *(See statements below)*
- [ ] Elimination
- [ ] Engineering controls
- [x] General PPE Usage
- [x] Personal Hygiene
- [ ] Emergency Action Plan (EAP)
- [ ] JSA to be developed/used *(specify)*
- [ ] Substitution
- [ ] Administrative controls
- [ ] Hearing Conservation
- [ ] Exposure Guidelines
- [ ] Fall Protection
- [ ] TIP conducted *(specify job/JSA)*
- [ ] Isolation
- [ ] Monitoring
- [ ] Respiratory Protection
- [x] Decon Procedures
- [ ] Work Zones/Site Control
- [ ] Traffic Control
- [ ] Other *(specify)*

Signature and Certification Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign in Time	Initial & Sign out Time	I have read and understand the HASP
Josh Duquette / Arcadis /	1000	1800	JP
Kyle Stifler / Arcadis	1000 KS	1800	KS
Kate Claborn / Arcadis	10:00	18:00	KC

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.888-449-7787 and then notify the field supervisor who will then notify the Project or Task Manager.

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify the Project or Task Manager.

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify the Project or Task Manager.

Visitor Name/Co - not involved in work

In	Out
In	Out
In	Out
In	Out

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to STOP THE JOB, I will perform TRACK; and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:)

- [ ] Lessons learned and best practices learned today:
- [ ] Incidents that occurred today:
- [ ] Any Stop Work interventions today?
- [ ] Corrective/Preventive Actions needed for future work:
- [ ] Any other H&S Issues:

Keep H&S 1st in all things | WorkCare - 1.888.449.7787

Rev.08.02_September_2015
ARC HSGE.001

Tailgate pg.2 of 2

A Real Commitment, A Daily Issue: Safety

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (9/29/2020)

ONSITE DATE Monday 9/29/2020

ONSITE RESOURCES

- 11:00 – 18:00 JV – Kim Stilson, Kate Clubine (Arcadis)

COMPLETED ACTIVITIES

- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting and site tour prior to onsite activities. See attached form.
- Sampled the following wells:
  - NHFLA-MW4OB-SEP2020
  - NHFLA-MW4BR-SEP2020
  - NHFLA-MW5BR-SEP2020
  - NHFLA-MW7OB-SEP2020
  - NHFLA-MS8-SEP2020 – parent is MW7OB
  - NHFLA-MSD8-SEP2020 – parent is MW7OB
  - NHFLA-EB22-SEP2020
  - NHFLA-TB28-SEP2020
  - NHFLA-TB29-SEP2020
  - NHFLA-TB29-SEP2020

PLANNED ACTIVITIES FOR 9/30/2020 – Continue sampling.

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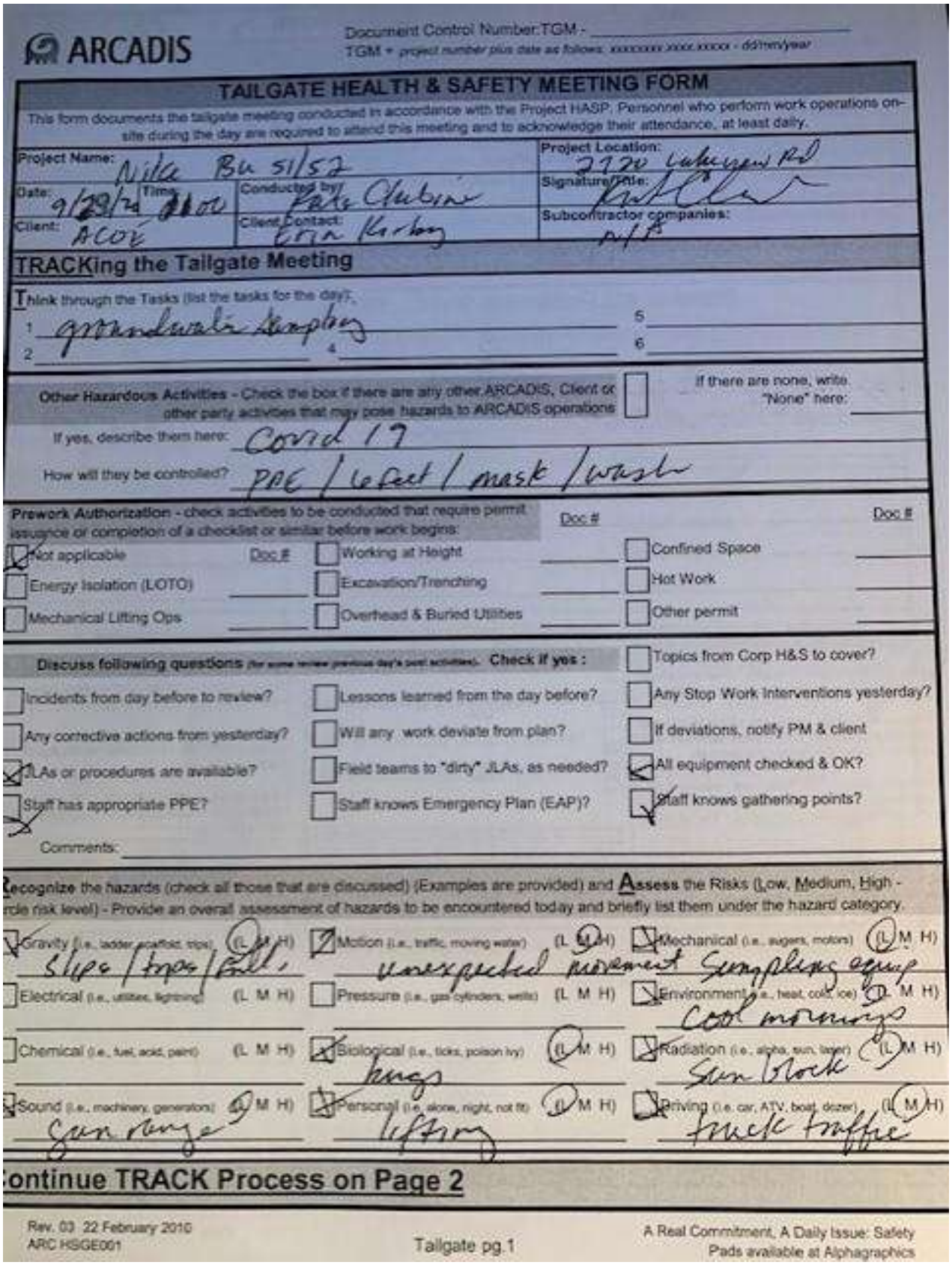
SERES Engineering & Services, LLC
ARCADIS
a joint venture



ARCADIS

Document Control Number:TGM - _____
TGM = project number plus date as follows: xxxxxxxx.xxxx.xxxxx - dd/mm/year

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: Nike Bu 51/52	Project Location: 2720 Lakeview Rd
Date: 9/29/20 Time: 0800	Conducted by: Pete Clubine / Signature/Title:
Client: ACOE	Client Contact: Erin Kirby
	Subcontractor companies: N/A

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1 groundwater sampling
2
4
5
6

Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations ☐ If there are none, write "None" here: _____

If yes, describe them here: Covid 19

How will they be controlled? PPE / 6 feet / mask / wash

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
☒ Not applicable		☐ Working at Height		☐ Confined Space	
☐ Energy Isolation (LOTO)		☐ Excavation/Trenching		☐ Hot Work	
☐ Mechanical Lifting Ops		☐ Overhead & Buried Utilities		☐ Other permit	

Discuss following questions (for some review previous day's past activities). **Check if yes :**

☐ Incidents from day before to review?	☐ Lessons learned from the day before?	☐ Topics from Corp H&S to cover?
☐ Any corrective actions from yesterday?	☐ Will any work deviate from plan?	☐ Any Stop Work Interventions yesterday?
☒ JLAs or procedures are available?	☐ Field teams to "dirty" JLAs, as needed?	☐ If deviations, notify PM & client
☐ Staff has appropriate PPE?	☐ Staff knows Emergency Plan (EAP)?	☒ All equipment checked & OK?
		☒ Staff knows gathering points?

Comments: _____

Recognize the hazards (check all those that are discussed) (Examples are provided) and **Assess** the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

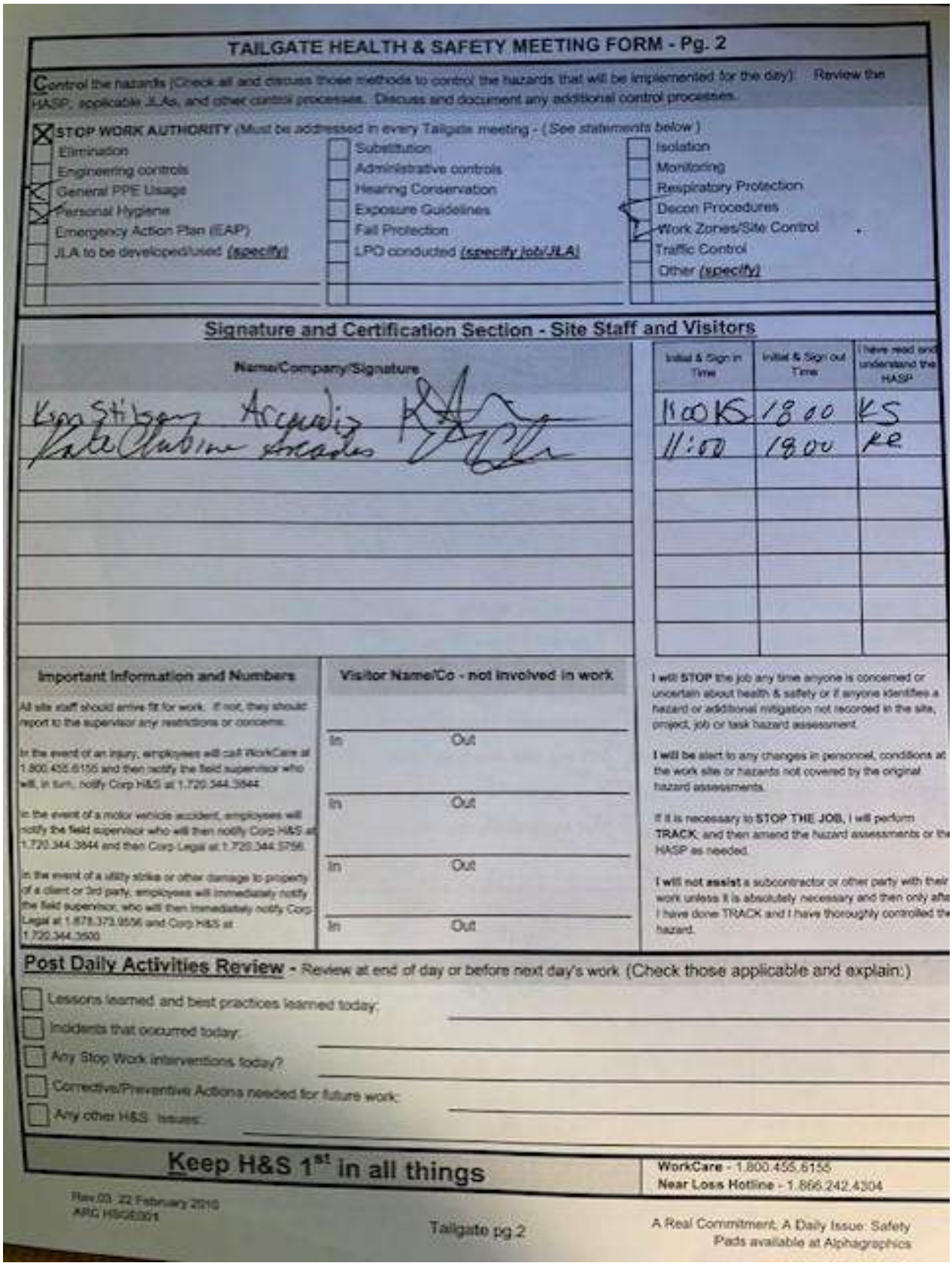
☒ Gravity (i.e., ladder, scaffold, trips) (L M H): slips / trips / falls	☒ Motion (i.e., traffic, moving water) (L M H): unexpected movement	☒ Mechanical (i.e., augers, motors) (L M H): sampling equip
☐ Electrical (i.e., utilities, lightning) (L M H)	☐ Pressure (i.e., gas cylinders, wells) (L M H)	☒ Environment (i.e., heat, cold, ice) (L M H): cool mornings
☐ Chemical (i.e., fuel, acid, paint) (L M H)	☒ Biological (i.e., ticks, poison ivy) (L M H): bugs	☒ Radiation (i.e., alpha, sun, laser) (L M H): Sun block
☒ Sound (i.e., machinery, generators) (L M H): gun range	☒ Personal (i.e., alone, night, not fit) (L M H): lifting	☒ Driving (i.e. car, ATV, boat, dozer) (L M H): truck traffic

Continue TRACK Process on Page 2

Rev. 03 22 February 2010
ARC HSGE001

Tailgate pg.1

A Real Commitment, A Daily Issue: Safety
Pads available at Alphagraphics



TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss those methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs, and other control processes. Discuss and document any additional control processes.

- [x] STOP WORK AUTHORITY (Must be addressed in every Tailgate meeting - (See statements below)
- [ ] Elimination
- [ ] Engineering controls
- [x] General PPE Usage
- [x] Personal Hygiene
- [ ] Emergency Action Plan (EAP)
- [ ] JLA to be developed/used (specify)
- [ ] Substitution
- [ ] Administrative controls
- [ ] Hearing Conservation
- [ ] Exposure Guidelines
- [ ] Fall Protection
- [ ] LPO conducted (specify job/JLA)
- [ ] Isolation
- [ ] Monitoring
- [ ] Respiratory Protection
- [ ] Decon Procedures
- [ ] Work Zones/Site Control
- [ ] Traffic Control
- [ ] Other (specify)

Signature and Certification Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign in Time	Initial & Sign out Time	I have read and understand the HASP
Kyra Stilson Arcadis	1100 KS	1800	KS
Kate Clubine Arcadis	11:00	1900	KC

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3844.

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3844 and then Corp Legal at 1.720.344.5756.

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.9596 and Corp H&S at 1.720.344.3500.

Visitor Name/Co - not involved in work

	In	Out

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to STOP THE JOB, I will perform TRACK, and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:)

- [ ] Lessons learned and best practices learned today:
- [ ] Incidents that occurred today:
- [ ] Any Stop Work interventions today?
- [ ] Corrective/Preventive Actions needed for future work:
- [ ] Any other H&S issues:

Keep H&S 1st in all things

WorkCare - 1.800.455.6155
Near Loss Hotline - 1.866.242.4304

Rev.03 22 February 2010
APG HSGE001

Tailgate pg 2

A Real Commitment, A Daily Issue: Safety
Pads available at Alphagraphics

DAILY FIELD REPORT

To:
Erin Kirby, USACE - New England

From:
Andy Vitolins, Arcadis
Nathan Mullens, SERES

Copies:
Kate Clubine, Arcadis
Jeff Brayer, Arcadis

SERES-ARCADIS JV, LLC
669 Marina Drive, Suite B-7
Charleston, South Carolina 29492

FUDS Project Number:
C02NY0079

Subject:
Nike BU 51/52 – Hamburg, NY – Daily Field Report (9/30/2020)

ONSITE DATE Tuesday 9/30/2020

ONSITE RESOURCES

- 11:00 – 18:00 JV – Kim Stilson, Kate Clubine (Arcadis)

COMPLETED ACTIVITIES

- Checked in with Town of Hamburg Buildings and Grounds Department (Rick Nowak and Pat Ryan)
- Completed H&S tailgate meeting and site tour prior to onsite activities. See attached form.
- Sampled the following wells:
  - NHFLA-MW1OB-SEP2020
  - NHFLA-MW1BR-SEP2020
  - NHFLA-MW7BR-SEP2020
  - NHFLA-DUP13-SEP2020 – parent is MW7BR
  - NHFLA-EB23-SEP2020
  - NHFLA-TB31-SEP2020
  - NHFLA-TB32-SEP2020
- Demobilized from site.

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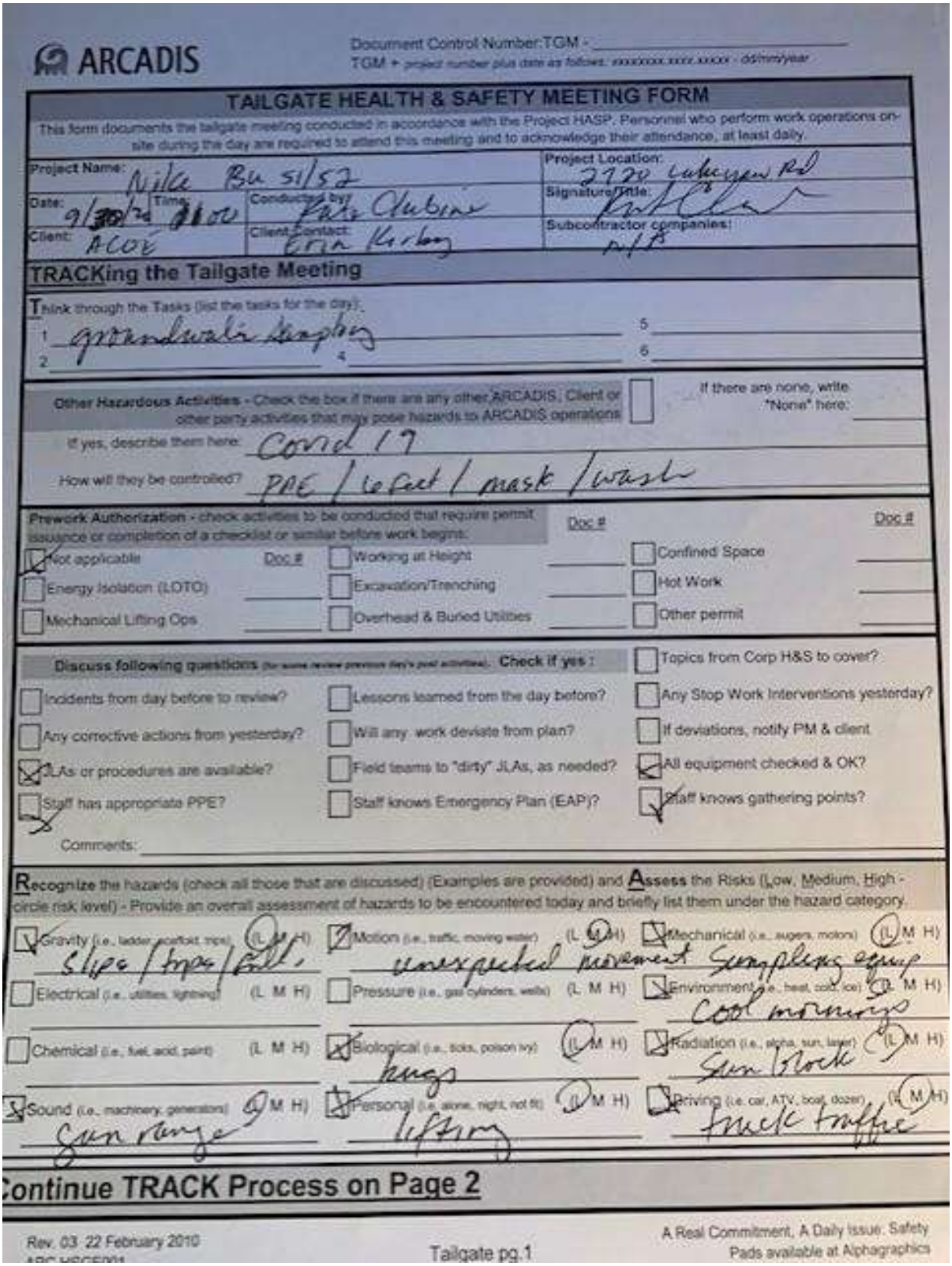


ARCADIS

Document Control Number:TGM - _____
TGM = project number plus date as follows: xxxxxxx.xxxx.xxxxx - dd/mm/year

TAILGATE HEALTH & SAFETY MEETING FORM

This form documents the tailgate meeting conducted in accordance with the Project HASP. Personnel who perform work operations on-site during the day are required to attend this meeting and to acknowledge their attendance, at least daily.

Project Name: Nike Bu 51/52	Project Location: 2720 Lakeview Rd
Date: 9/30/20 Time: 0800	Conducted by: Pete Clubine / Signature/Title:
Client: ACOE	Client Contact: Erin Kirby
	Subcontractor companies: N/A

TRACKing the Tailgate Meeting

Think through the Tasks (list the tasks for the day):

1 groundwater sampling
2
3
4
5
6

Other Hazardous Activities - Check the box if there are any other ARCADIS, Client or other party activities that may pose hazards to ARCADIS operations ☐ If there are none, write "None" here:

If yes, describe them here: Covid 19

How will they be controlled? PPE / wipes / mask / wash

Prework Authorization - check activities to be conducted that require permit issuance or completion of a checklist or similar before work begins:

	Doc #		Doc #		Doc #
☒ Not applicable		☐ Working at Height		☐ Confined Space	
☐ Energy Isolation (LOTO)		☐ Excavation/Trenching		☐ Hot Work	
☐ Mechanical Lifting Ops		☐ Overhead & Buried Utilities		☐ Other permit	

Discuss following questions (for some review previous day's post activities). **Check if yes :**

☐ Incidents from day before to review?	☐ Lessons learned from the day before?	☐ Any Stop Work Interventions yesterday?
☐ Any corrective actions from yesterday?	☐ Will any work deviate from plan?	☐ If deviations, notify PM & client
☒ JLAs or procedures are available?	☐ Field teams to "dirty" JLAs, as needed?	☑ All equipment checked & OK?
☑ Staff has appropriate PPE?	☐ Staff knows Emergency Plan (EAP)?	☑ Staff knows gathering points?

☐ Topics from Corp H&S to cover?

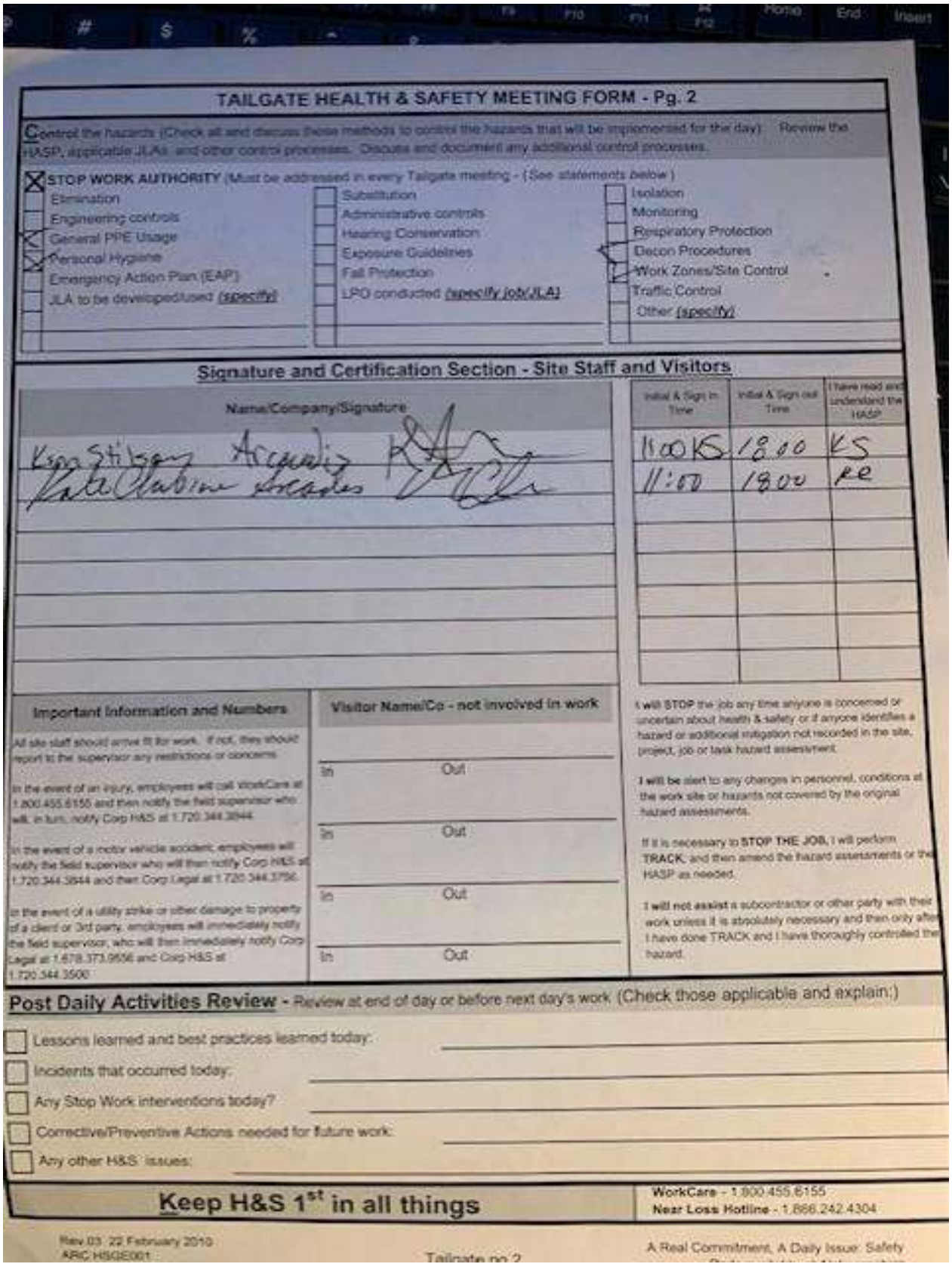
Comments: _____

Recognize the hazards (check all those that are discussed) (Examples are provided) and **Assess** the Risks (Low, Medium, High - circle risk level) - Provide an overall assessment of hazards to be encountered today and briefly list them under the hazard category.

☑ Gravity (i.e., ladder, scaffold, trips) (L M H) slips / trips / falls	☑ Motion (i.e., traffic, moving water) (L M H) unexpected movement sampling equip	☐ Mechanical (i.e., augers, motors) (L M H)
☐ Electrical (i.e., utilities, lightning) (L M H)	☐ Pressure (i.e., gas cylinders, wells) (L M H)	☒ Environment (i.e., heat, cold, ice) (L M H) cool mornings
☐ Chemical (i.e., fuel, acid, paint) (L M H)	☒ Biological (i.e., ticks, poison ivy) (L M H) bugs	☒ Radiation (i.e., alpha, sun, laser) (L M H) Sun Block
☒ Sound (i.e., machinery, generators) (L M H) gun range	☒ Personal (i.e., alone, night, not fit) (L M H) lifting	☐ Driving (i.e. car, ATV, boat, dozer) (L M H) truck traffic

Continue TRACK Process on Page 2

Rev. 03 22 February 2010 Tailgate pg.1 A Real Commitment, A Daily Issue. Safety Pads available at Alphagraphics



TAILGATE HEALTH & SAFETY MEETING FORM - Pg. 2

Control the hazards (Check all and discuss these methods to control the hazards that will be implemented for the day): Review the HASP, applicable JLAs and other control processes. Discuss and document any additional control processes.

- [x] STOP WORK AUTHORITY (Must be addressed in every Tailgate meeting - (See statements below)
- [ ] Elimination
- [ ] Engineering controls
- [x] General PPE Usage
- [x] Personal Hygiene
- [ ] Emergency Action Plan (EAP)
- [ ] JLA to be developed/used (specify)
- [ ] Substitution
- [ ] Administrative controls
- [ ] Hearing Conservation
- [ ] Exposure Guidelines
- [ ] Fall Protection
- [ ] LPO conducted (specify job/JLA)
- [ ] Isolation
- [ ] Monitoring
- [ ] Respiratory Protection
- [x] Decon Procedures
- [x] Work Zones/Site Control
- [ ] Traffic Control
- [ ] Other (specify)

Signature and Certification Section - Site Staff and Visitors

Name/Company/Signature	Initial & Sign in Time	Initial & Sign out Time	I have read and understand the HASP
Kyra Stilson Arcadis	1100 KS	1800	KS
Kate Clabine Arcadis	11:00	1800	KC

Important Information and Numbers

All site staff should arrive fit for work. If not, they should report to the supervisor any restrictions or concerns.

In the event of an injury, employees will call WorkCare at 1.800.455.6155 and then notify the field supervisor who will, in turn, notify Corp H&S at 1.720.344.3844.

In the event of a motor vehicle accident, employees will notify the field supervisor who will then notify Corp H&S at 1.720.344.3844 and then Corp Legal at 1.720.344.3756.

In the event of a utility strike or other damage to property of a client or 3rd party, employees will immediately notify the field supervisor, who will then immediately notify Corp Legal at 1.678.373.9556 and Corp H&S at 1.720.344.3500.

Visitor Name/Co - not involved in work

In	Out

I will STOP the job any time anyone is concerned or uncertain about health & safety or if anyone identifies a hazard or additional mitigation not recorded in the site, project, job or task hazard assessment.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original hazard assessments.

If it is necessary to **STOP THE JOB**, I will perform **TRACK** and then amend the hazard assessments or the HASP as needed.

I will not assist a subcontractor or other party with their work unless it is absolutely necessary and then only after I have done TRACK and I have thoroughly controlled the hazard.

Post Daily Activities Review - Review at end of day or before next day's work (Check those applicable and explain:)

- [ ] Lessons learned and best practices learned today:
- [ ] Incidents that occurred today:
- [ ] Any Stop Work interventions today?
- [ ] Corrective/Preventive Actions needed for future work:
- [ ] Any other H&S issues:

Keep H&S 1st in all things

WorkCare - 1.800.455.6155
Near Loss Hotline - 1.866.242.4304

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ARC HSGE001

Tailgate pg 2

A Real Commitment, A Daily Issue: Safety

Appendix C

Data Validation Reports

APPENDIX C - DATA VALIDATION

SUMMARY

The former Nike Anti-aircraft Missile Battery BU-51/52 Launch Area Remedial Investigation dataset is considered usable and meets project DQOs with the following exceptions:

- The hexavalent chromium results in groundwater samples NHFLA-MW11-SEP2020, NHFLA-MW15-SEP2020, NHFLA-MW8-SEP2020, NHFLA-MW9BR, SEP2020, and NHFLA-MW9OB-SEP2020 and equipment blank sample NHFLA-EB21-SEP2020 were assigned "X" qualifiers because the analysis was performed more than two times past the method-specified 24-hour holding times (analysis performed greater than 66 hours from sample collection). The hexavalent chromium results in these samples are not usable and should be rejected.
- The antimony results in soil samples NHFLA-BH46-A-SEP2020, NHFLA-SL11A-A-SEP2020, and NHFLA-SL29-A-SEP2020, and the associated field duplicate samples NHFLA-DUP6-SEP2020 and NHFLA-DUP7-SEP2020 were assigned "X" qualifiers because the recoveries of antimony in the MS and/or MSD samples were less than 30 percent. The antimony results in these samples are not usable and should be rejected.
- The hexavalent chromium results in soil samples NHFLA-BH46-A-SEP2020 and NHFLA-BH38-A-SEP2020 and groundwater samples NHFLA-MW2-SEP2020 and NHFLA-MW8-SEP2020 were assigned "X" qualifiers because the recoveries of hexavalent chromium in the MS and/or MSD samples were less than 30 percent. The hexavalent chromium results in these sample are not usable and should be rejected.
- The 4-chloroaniline results in soil sample NHFLA-SL11A-A-SEP2020 and field duplicate sample NHFLA-DUP7-SEP2020 were assigned "X" qualifiers because the recovery of 4-chloroaniline in the MS and MSD samples were less than 10 precent. The 4-chloroaniline results in these samples are not usable and should be rejected.
- The caprolactam result in groundwater samples NHFLA-MW2-SEP2020 and NHFLA-MW5OB-SEP2020 were assigned "X" qualifiers because the recoveries of caprolactam in the MS samples were less than 10 percent. The caprolactam results in these samples are not usable and should be rejected.
- The hydrazine results in soil samples NHFLA-MW16-A-AUG2020, NHFLA-MW11-B-SEP2020, and NHFLA-SL28-A-SEP2020 were assigned "X" qualifiers because the recoveries of hydrazine in the MS and MSD samples were less than 10 percent. The hydrazine results in these samples are not usable and should be rejected.
- The hydrazine and methyl hydrazine results in soil samples NHFLA-MW-15-A-AUG2020, NHFLA-MW-15-B-AUG2020, NHFLA-MW3-B-AUG2020, NHFLA-MW8-A-SEP2020, and NHFLA-SL29-A-SEP2020, and the associated field duplicate samples NHFLA-DUP1-AUG2020, NHFLA-DUP2-AUG2020, and NHFLA-DUP4-AUG2020 were assigned "X" qualifiers because the recoveries of hydrazine and methyl hydrazine in the MS and MSD samples were less than 10 percent. The hydrazine and methyl hydrazine results in these samples are not usable and should be rejected.

- The caprolactam results in equipment blank samples NHFLA-EB1-AUG2020, NHFLA-EB2-AUG2020, and NHFLA-EB7-AUG2020 were assigned "X" qualifiers because the recovery of caprolactam in the LCS sample was less than 10 percent. The caprolactam result in these samples are not usable and should be rejected.
- The 4-chloroaniline results in soil samples NHFLA-MW5OB-A-AUG2020, NHFLA-MW5OB-B-AUG2020, NHFLA-MW5OB-C-AUG2020, NHFLA-MW1OB-A-AUG2020, NHFLA-MW1OB-B-AUG2020, and NHFLA-MW1OB-C-AUG2020 were assigned "X" qualifiers because the recovery of 4-chloroaniline in the LCS sample was less than 10 percent. The 4-chloroaniline results in these samples are not usable and should be rejected.
- The atrazine result in soil sample NHFLA-SL11A-A-SEP2020 was assigned an "X" qualifier because the recovery in the LCS sample was less than 10 percent. The atrazine result in this sample is not usable and should be rejected.
- The 3,3'-dichlorobenzidine, 4-nitroaniline, atrazine, and N-nitrosodiphenylamine results in soil samples NHFLA-MW11-B-SEP2020, NHFLA-MW11-C-SEP2020, and NHFLA-MW-12-B-SEP2020 were assigned "X" qualifiers because the recoveries in the LCS sample were less than 10 percent. The 3,3'-dichlorobenzidine, 4-nitroaniline, atrazine, and N-nitrosodiphenylamine results in these samples are not usable and should be rejected.
- The 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, 2,4-dichlorophenol, 2,4-dinitrophenol, 2-chlorophenol, 2-nitrophenol, 4,6-dinitro-2-methylphenol, pentachlorophenol, and phenol results in equipment blank samples NHFLA-EB-15-2-SEP2020, NHFLA-EB17-SEP2020, and NHFLA-EB18-SEP2020 were assigned "X" qualifiers because the recoveries in the LCS sample were less than 10 percent. The 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, 2,4-dichlorophenol, 2,4-dinitrophenol, 2-chlorophenol, 2-nitrophenol, 4,6-dinitro-2-methylphenol, pentachlorophenol, and phenol results in the samples are not usable and should be rejected.
- The 2,3,4,6-tetrachlorophenol, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, 2,4-dichlorophenol, 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, 4-nitrophenol, and pentachlorophenol results in groundwater samples NHFLA-MW2-SEP2020 and NHFLA-MW5OB-SEP2020, field duplicate sample NHFLA-DUP11-SEP2020, and equipment blank sample NHFLA-EB19-SEP2020 were assigned "X" qualifiers because the recoveries in the LCS sample were less than 10 percent. The 2,3,4,6-tetrachlorophenol, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, 2,4-dichlorophenol, 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, 4-nitrophenol, and pentachlorophenol results in the samples are not usable and should be rejected.
- The 2,3,4,6-tetrachlorophenol, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, 2,4-dinitrophenol, 4,6-dinitro-2-methylphenol, 4-nitrophenol, and pentachlorophenol results in groundwater samples NHFLA-MW10-DEC2020, NHFLA-MW11-DEC2020, NHFLA-MW12-DEC2020, NHFLA-MW16-DEC2020, NHFLA-MW2-DEC2020, and NHFLA-MW3-DEC2020 and equipment blank sample NHFLA-EB23-DEC2020 were assigned "X" qualifiers because the recoveries in the LCS sample were less than 10 percent. The 2,3,4,6-tetrachlorophenol, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, 2,4-dinitrophenol,

4,6-dinitro-2-methylphenol, 4-nitrophenol, and pentachlorophenol results in the samples are not usable and should be rejected.

- The 2,3,4,6-tetrachlorophenol, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, 2,4-dichlorophenol, 2,4-dinitrophenol, 2,4-dinitrotoluene, 2-chlorophenol, 2-nitrophenol, 4,6-dinitro-2-methylphenol, 4-nitrophenol, m-&p-cresols, hexachlorocyclopentadiene, pentachlorophenol, and phenol results in groundwater samples NHFLA-MW14-DEC2020 NHFLA-MW-1BR-DEC2020, NHFLA-MW-1OB-DEC2020NHFLA-MW4BR-DEC2020 , NHFLA-MW4OB-DEC 2020, and NHFLA-5OB-DEC2020, and equipment blank sample NHFLA-EB24-DEC2020 were assigned "X" qualifiers because the recoveries in the LCS sample were less than 10 percent. The 2,3,4,6-tetrachlorophenol, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, 2,4-dichlorophenol, 2,4-dinitrophenol, 2,4-dinitrotoluene, 2-chlorophenol, 2-nitrophenol, 4,6-dinitro-2-methylphenol, 4-nitrophenol, m-&p-cresols, hexachlorocyclopentadiene, pentachlorophenol, and phenol results in the samples are not usable and should be rejected.
- The 2,3,4,6-tetrachlorophenol, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, 2,4-dichlorophenol, 2,4-dinitrophenol, 2-chlorophenol, 2-methylphenol, 2-nitrophenol, 4,6-dinitro-2-methylphenol, 4-chloro-3-methylphenol, m-&p-cresols, pentachlorophenol, phenol, and 4-nitrophenol results in groundwater samples NHFLA-MW15-DEC2020, NHFLA-MW7BR-DEC2020, NHFLA-MW7OB-DEC2020, NHFLA-MW8-DEC2020NHFLA-MW9BR-DEC2020, and NHFLA-MW9OB-DEC2020, field duplicate samples NHFLA-DUP14-DEC2020 and NHFLA-DUP15-DEC2020, and equipment blank sample NHFLA-EB25-DEC2020 were assigned "X" qualifiers because the recoveries in the LCS sample were less than 10 percent. The2,3,4,6-tetrachlorophenol, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol, 2,4-dichlorophenol, 2,4-dinitrophenol, 2-chlorophenol, 2-methylphenol, 2-nitrophenol, 4,6-dinitro-2-methylphenol, 4-chloro-3-methylphenol, m-&p-cresols, pentachlorophenol, phenol, and 4-nitrophenol results in the samples are not usable and should be rejected.
- The recoveries of one or more of the SVOC acid fraction surrogate compounds (i.e., 2,4,6-tribromophenol, phenol-6, and 2-fluorophenol) were less than 10 percent in groundwater samples NHFLA-MW4OB-SEP2020, NHFLA-MW7OB-SEP2020, NHFLA-MW12-DEC2020, NHFLA-MW16-DEC2020, NHFLA-MW15-DEC2020, NHFLA-MW7BR-DEC2020, NHFLA-MW7OB-DEC2020, NHFLA-MW8-DEC2020, NHFLA-MW9BR-DEC2020, NHFLA-MW9OB-DEC2020, and NHFLA-MW13-DEC2020, field duplicate samples NHFLA-DUP14-DEC2020, and NHFLA-DUP15-DEC2020, and equipment blank samples NHFLA-EB1-AUG2020, NHFLA-EB2-AUG2020, NHFLA-EB3-AUG2020, NHFLA-EB11-SEP2020, NHFLA-EB12-SEP2020, NHFLA-EB17-SEP2020, NHFLA-EB15-SEP2020, NHFLA-EB23-DEC2020, NHFLA-EB24-DEC2020, and NHFLA-EB25-DEC2020. The results for all acid fraction SVOCs in the samples were qualified "X" and are not usable; the results should be rejected.

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	410-15140-1_52_2a_FUDSChem
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	January 13, 2021

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	M8315A
NHFLA-SL29-A-SEP2020	410-15140-1	Solid	Field Sample/N	X
NHFLA-EB18-SEP2020	410-15140-2	Water	Equipment Blank/EB	X

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA and were reported under sample delivery group (SDG) 410-15140-1_52_2a_FUDSChem. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Lab Blank
- LCS Recovery
- LCS RPD
- MS Recovery
- MS RPD
- Prep Hold Time
- Test Hold Time

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 6 results (100.00%) out of the 6 results (sample and field QC samples) reported are qualified based on review and 2 results (33.33%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Analytical Method	Data Reviewer Comment
M8315A	No additional comments; see Checklist for detail.

Jim Tomalia

January 13, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method M8315A, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-SL29-A-SEP2020 (MS)/ 410-15140-1MS	Hydrazine	1.104	54 - 128	10 - 128	percent	J/X	M	
NHFLA-SL29-A-SEP2020 (MS)/ 410-15140-1MS	Methyl hydrazine	1.356	29 - 187	10 - 187	percent	J/X	M	
NHFLA-SL29-A-SEP2020 (MS)/ 410-15140-1MS	1,1-Dimethylhydrazine	35.97	86 - 124	10 - 124	percent	J/UJ	M	
NHFLA-SL29-A-SEP2020 (SD)/ 410-15140-1MSD	Hydrazine	1.141	54 - 128	10 - 128	percent	J/X	M	
NHFLA-SL29-A-SEP2020 (SD)/ 410-15140-1MSD	Methyl hydrazine	1.483	29 - 187	10 - 187	percent	J/X	M	
NHFLA-SL29-A-SEP2020 (SD)/ 410-15140-1MSD	1,1-Dimethylhydrazine	41.41	86 - 124	10 - 124	percent	J/UJ	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for M8315A

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-SL29-A-SEP2020	N	1,1-Dimethylhydrazine	0.130	0.100 U H FL	0.100 UJ		ng/g	M
NHFLA-SL29-A-SEP2020	N	Hydrazine	0.130	0.0500 U H FL	0.0500 X		ng/g	M
NHFLA-SL29-A-SEP2020	N	Methyl hydrazine	0.130	0.100 U H FL	0.100 X		ng/g	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method M8315A, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-SL29-A-SEP2020 (N)/ 410-15140-1		12.36	< 3	< 6	days	J/X	H1	Test Exceeds UCL
NHFLA-SL29-A-SEP2020 (N)/ 410-15140-1MS		12.36	< 3	< 6	days	J/X	H1	Test Exceeds UCL
NHFLA-SL29-A-SEP2020 (N)/ 410-15140-1MSD		12.36	< 3	< 6	days	J/X	H1	Test Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Table of All Qualified Results

Test Method: M8315A Extraction Method: NONE

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-SL29-A-SEP2020	N	1,1-Dimethylhydrazine	0.130	0.100 U H FL	0.100 UJ		ng/g	M
NHFLA-SL29-A-SEP2020	N	Hydrazine	0.130	0.0500 U H FL	0.0500 X		ng/g	M
NHFLA-SL29-A-SEP2020	N	Methyl hydrazine	0.130	0.100 U H FL	0.100 X		ng/g	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method M8315A

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB18-SEP2020	EB	1,1-Dimethylhydrazine	1.00	0.630 U H	0.630 U	0.630 UJ	H2
NHFLA-EB18-SEP2020	EB	Hydrazine	0.630	0.500 U H	0.500 U	0.500 UJ	H2
NHFLA-EB18-SEP2020	EB	Methyl hydrazine	1.00	0.630 U H	0.630 U	0.630 UJ	H2
NHFLA-SL29-A-SEP2020	N	1,1-Dimethylhydrazine	0.130	0.100 U H FL	0.100 X	0.100 UJ	M
NHFLA-SL29-A-SEP2020	N	Hydrazine	0.130	0.0500 U H FL	0.0500 X	0.0500 X	M
NHFLA-SL29-A-SEP2020	N	Methyl hydrazine	0.130	0.100 U H FL	0.100 X	0.100 X	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Automated Data Review Detail Report for 410-15140-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Detected Results

--No Records Found--

Rejected Results

Test Method: M8315A Extraction Method: NONE Leach Method: NONE

FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-SL29-A-SEP2020	410-15140-1	S	N	Hydrazine	0.130	0.0500 U H FL	0.0500 X	ng/g	M
NHFLA-SL29-A-SEP2020	410-15140-1	S	N	Methyl hydrazine	0.130	0.100 U H FL	0.100 X	ng/g	M

Automated Data Review Detail Report for 410-15140-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
M8315A/NONE/NONE	1	3

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
M8315A/NONE/NONE	NHFLA-EB18-SEP2020	EB	1	1,1-Dimethylhydrazine	0.630 UJ	0.310	0.630	1.00	0.8	ug/L
M8315A/NONE/NONE	NHFLA-EB18-SEP2020	EB	1	Hydrazine	0.500 UJ	0.130	0.500	0.630	0.5	ug/L
M8315A/NONE/NONE	NHFLA-EB18-SEP2020	EB	1	Methyl Hydrazine	0.630 UJ	0.310	0.630	1.00	0.8	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
H1	Test Hold Time
H2	Prep Hold Time
M	MS Recovery
TR	Trace Level Detect

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: M8315A (Determination of Hydrazine, Monomethylhydrazine, and 1,1- Dimethylhydrazine in Aqueous and Soil Samples by LC/MS/MS)

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?		•		Water sample -002 (equipment blank) was prepped outside of the 10 day project criteria (12 days actual) so all sample -002 results qualified estimated with UJ/H2 flags/reason codes. H1 qualifiers removed for soil sample since it was prepped and analyzed within project criteria for soil.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -001 MS/MSD recoveries biased low for all target analytes with hydrazine and monomethylhydrazine below reject criteria. Sample -001 results for hydrazine/monomethylhydrazine qualified rejected with X/M flags/reason codes and 11-dimethylhydrazine qualified estimated with UJ/M.
Was the MS/MSD RPD within project acceptance limits?	•			
Were surrogate recoveries within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?	•			Sample -001 hydrazine and monomethylhydrazine based on MS recovery low bias.

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	410-13919-1_52_2a_FUDSChem
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	March 02, 2021

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	M8315A
NHFLA-DUP7-SEP2020	410-13919-2	Soil	Field Duplicate/FD	X
NHFLA-SL11A-A-SEP2020	410-13919-1	Soil	Field Sample/N	X
NHFLA-SL11B-A-SEP2020	410-13919-4	Soil	Field Sample/N	X
NHFLA-SL25-A-SEP2020	410-13919-3	Soil	Field Sample/N	X
NHFLA-EB15-2-SEP2020	410-13919-5	Water	Equipment Blank/EB	X

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA and were reported under sample delivery group (SDG) 410-13919-1_52_2a_FUDSChem. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Field Duplicate RPD
- Lab Blank
- LCS Recovery
- LCS RPD
- MS Recovery
- MS RPD
- Prep Hold Time
- Test Hold Time

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 2 results (13.33%) out of the 15 results (sample and field QC samples) reported are qualified based on review and 0 results (0.00%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Analytical Method	Data Reviewer Comment
M8315A	No additional comments; see Checklist for detail.

Jim Tomalia

March 04, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method M8315A, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS5-SEP2020 (MS)/ 410-13919-1MS	Hydrazine	36.88	54 - 128	10 - 128	percent	J/UJ	M	
NHFLA-MSD5-SEP2020 (SD)/ 410-13919-1MSD	Hydrazine	31.00	54 - 128	10 - 128	percent	J/UJ	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for M8315A

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP7-SEP2020	FD	Hydrazine	0.130	0.0500 U	0.0500 UJ		ng/g	M
NHFLA-SL11A-A-SEP2020	N	Hydrazine	0.130	0.0500 U FL	0.0500 UJ		ng/g	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method M8315A, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-DUP7-SEP2020 (FD)/ 410-13919-2		5.480	< 3	< 6	days	J/UJ	H1	Test Exceeds UWL
NHFLA-SL11A-A-SEP2020 (N)/ 410-13919-1		5.460	< 3	< 6	days	J/UJ	H1	Test Exceeds UWL
NHFLA-SL11B-A-SEP2020 (N)/ 410-13919-4		5.410	< 3	< 6	days	J/UJ	H1	Test Exceeds UWL
NHFLA-SL25-A-SEP2020 (N)/ 410-13919-3		5.440	< 3	< 6	days	J/UJ	H1	Test Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Table of All Qualified Results

Test Method: M8315A	Extraction Method: NONE							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP7-SEP2020	FD	Hydrazine	0.130	0.0500 U	0.0500 UJ		ng/g	M
NHFLA-SL11A-A-SEP2020	N	Hydrazine	0.130	0.0500 U FL	0.0500 UJ		ng/g	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method M8315A

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP7-SEP2020	FD	1,1-Dimethylhydrazine	0.130	0.100 U	0.100 UJ	0.100 U	
NHFLA-DUP7-SEP2020	FD	Hydrazine	0.130	0.0500 U	0.0500 UJ	0.0500 UJ	M
NHFLA-DUP7-SEP2020	FD	Methyl hydrazine	0.130	0.100 U	0.100 UJ	0.100 U	
NHFLA-SL11A-A-SEP2020	N	1,1-Dimethylhydrazine	0.130	0.100 U	0.100 UJ	0.100 U	
NHFLA-SL11A-A-SEP2020	N	Hydrazine	0.130	0.0500 U FL	0.0500 UJ	0.0500 UJ	M
NHFLA-SL11A-A-SEP2020	N	Methyl hydrazine	0.130	0.100 U	0.100 UJ	0.100 U	
NHFLA-SL11B-A-SEP2020	N	1,1-Dimethylhydrazine	0.130	0.100 U	0.100 UJ	0.100 U	
NHFLA-SL11B-A-SEP2020	N	Hydrazine	0.130	0.0510 U	0.0510 UJ	0.0510 U	
NHFLA-SL11B-A-SEP2020	N	Methyl hydrazine	0.130	0.100 U	0.100 UJ	0.100 U	
NHFLA-SL25-A-SEP2020	N	1,1-Dimethylhydrazine	0.120	0.100 U	0.100 UJ	0.100 U	
NHFLA-SL25-A-SEP2020	N	Hydrazine	0.120	0.0500 U	0.0500 UJ	0.0500 U	
NHFLA-SL25-A-SEP2020	N	Methyl hydrazine	0.120	0.100 U	0.100 UJ	0.100 U	

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: 410-13919-1_52_2a_FUDSChem

Location	Analysis
NHFLA-SL11A	M8315A

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	410-13919-1 / 410-13919-2	1,1-Dimethylhydrazine	ND	ND	0.130	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	410-13919-1 / 410-13919-2	Hydrazine	ND	ND	0.130	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	410-13919-1 / 410-13919-2	Methyl hydrazine	ND	ND	0.130	NA	50	NA	OK

FD = Field Duplicate
RL = Reporting Limit
RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		**NHFLA-SL11A**				
	Field sample ID		**NHFLA-MS5-**	**NHFLA-MSD5-SEP2020**		**NHFLA-**	**NHFLA-**
	Lab Sample ID		410-13919-	410-13919-		410-13919-1	410-13919-4
	Sample Type		MS	MSD		Parent	Parent
	Sample Date		9/11/20	9/11/20		9/11/20	9/11/20
	Analysis Information		1X	1X		1X	1X
410-13919-1_52_2a_FUDSChem							
Determination of Hydrazine, Monomethylhydrazine, and 1,1-Dimethylhydrazine in Aqueous and Soil Samples by LC/MS/MS (M8315A/NONE)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**		
1,1-Dimethylhydrazine (ng/g)	86-124	30	105	105	0.635	0.130 U	0.130 U
Hydrazine (ng/g)	54-128	30	36.9	31.0	17.3	0.130 UJ	-
Methyl hydrazine (ng/g)	29-187	30	94.0	94.0	0.00	0.130 U	-

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Reason Code Definitions

Code	Definition
H1	Test Hold Time
M	MS Recovery

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: M8315A (Determination of Hydrazine, Monomethylhydrazine, and 1,1- Dimethylhydrazine in Aqueous and Soil Samples by LC/MS/MS)

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			NOTE: all H1 holding time outlier flags were removed. Samples were prepped and analyzed within project specific holding times.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -001 MS/MSD recoveries were both biased low for hydrazine. Field sample -001 and the field duplicate -002 were qualified as estimated with UJ/M flags/reason codes.
Was the MS/MSD RPD within project acceptance limits?	•			
Were surrogate recoveries within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	SN6964_1
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Katahdin Analytical Services, Westbrook, ME
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	January 06, 2021- Resubmitted February 11, 2021 - review checklist clarification for S2AVEM-26 SIM/SVOC.

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	BNASIM	LYDKHN	SW6010	SW6020	SW7196	SW7470	SW7471	SW8260	SW8270	SW9045
NHFLA-MW5OB-A-AUG2020	SN6964-1	Soil	Field Sample/N	X	X	X		X		X	X	X	X
NHFLA-MW5OB-B-AUG2020	SN6964-2	Soil	Field Sample/N	X	X	X		X		X	X	X	
NHFLA-MW5OB-C-AUG2020	SN6964-3	Soil	Field Sample/N	X	X	X		X		X	X	X	
NHFLA-EB1-AUG2020	SN6964-4	Water	Equipment Blank/EB	X			X	X	X		X	X	
NHFLA-TB1-AUG2020	SN6964-5	Water	Trip Blank/TB								X		

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Katahdin Analytical Services, Westbrook, ME and were reported under sample delivery group (SDG) SN6964_1. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Lab Blank
- Lab Replicate RPD
- LCS Recovery
- LCS RPD
- MS Recovery
- MS RPD
- Prep Hold Time
- Surrogate
- Test Hold Time
- Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 107 results (17.17%) out of the 623 results (sample and field QC samples) reported are qualified based on review and 18 results (2.89%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Analytical Method	Data Reviewer Comment
BNASIM	No additional comments; see Checklist for detail.
LYDKHN	No additional comments; see Checklist for detail.
SW6010	No additional comments; see Checklist for detail.
SW6020	No additional comments; see Checklist for detail.
SW7196	No additional comments; see Checklist for detail.
SW7470	No additional comments; see Checklist for detail.
SW7471	No additional comments; see Checklist for detail.
SW8260	No additional comments; see Checklist for detail.
SW8270	No additional comments; see Checklist for detail.
SW9045	No additional comments; see Checklist for detail.

Jim Tomalia

February 11, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method BNASIM, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG284709-5 (LB)/ WG284709-5	Chrysene	0.04800	< 0.036	< 0.2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method BNASIM, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG284709-6 (BS)/ WG284709-6	2-Methylnaphthalene	14.90	39 - 114	10 - 114	percent	J/UJ	C	
WG284709-6 (BS)/ WG284709-6	Dibenz (a,h)anthracene	24.95	44 - 131	10 - 131	percent	J/UJ	C	
WG284709-6 (BS)/ WG284709-6	Benzo (g,h,i)perylene	29.05	44 - 128	10 - 128	percent	J/UJ	C	
WG284709-6 (BS)/ WG284709-6	Indeno(1,2,3-c,d)pyrene	29.30	48 - 130	10 - 130	percent	J/UJ	C	
WG284709-6 (BS)/ WG284709-6	Benzo (b)fluoranthene	45.40	53 - 126	10 - 126	percent	J/UJ	C	
WG284709-6 (BS)/ WG284709-6	Benzo (a)anthracene	55.00	59 - 120	10 - 120	percent	J/UJ	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB1-AUG2020	EB	2-Methylnaphthalene	0.190	0.0970 UL	0.0970 UJ		ug/l	C
NHFLA-EB1-AUG2020	EB	Benzo(a)anthracene	0.190	0.0970 UL	0.0970 UJ		ug/l	C
NHFLA-EB1-AUG2020	EB	Benzo(b)fluoranthene	0.190	0.0970 UL	0.0970 UJ		ug/l	C
NHFLA-EB1-AUG2020	EB	Benzo(g,h,i)perylene	0.190	0.0970 UL	0.0970 UJ		ug/l	C
NHFLA-EB1-AUG2020	EB	Dibenz(a,h)anthracene	0.190	0.0970 UL	0.0970 UJ		ug/l	C
NHFLA-EB1-AUG2020	EB	Indeno(1,2,3-c,d)pyrene	0.190	0.0970 UL	0.0970 UJ		ug/l	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method LYDKHN, Prep Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of extraction found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW5OB-A-AUG2020 (N)/ SN6964-1		3.200	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW5OB-B-AUG2020 (N)/ SN6964-2		3.190	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW5OB-C-AUG2020 (N)/ SN6964-3		3.040	< 0	< 0	days	J/X	H2	Prep Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6010, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBSNH26ICS1 (LB)/ PBSNH26ICS1	Antimony	0.08400	< 0.07	< 0.8	mg/kg	U/None	L	
PBSNH26ICS1 (LB)/ PBSNH26ICS1	Zinc	0.2100	< 0.17	< 2	mg/kg	U/None	L	
PBSNH26ICS1 (LB)/ PBSNH26ICS1	Magnesium	0.7400	< 0.68	< 10	mg/kg	U/None	L	
PBSNH26ICS1 (LB)/ PBSNH26ICS1	Sodium	3.200	< 1.5	< 100	mg/kg	U/None	L	
PBSNH26ICS1 (LB)/ PBSNH26ICS1	Potassium	6.700	< 2.9	< 100	mg/kg	U/None	L	
PBSNH26ICS1 (LB)/ PBSNH26ICS1	Chromium	0.1500	< 0.026	< 1	mg/kg	U/None	L	
PBSNH26ICS1 (LB)/ PBSNH26ICS1	Lead	1.010	< 0.087	< 0.5	mg/kg	U/None	L	
PBSNH26ICS1 (LB)/ PBSNH26ICS1	Aluminum	2.400	< 0.71	< 30	mg/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW5OB-A-AUG2020	N	Antimony	0.890	0.200 J	0.550 U		mg/kg	L
NHFLA-MW5OB-B-AUG2020	N	Antimony	1.60	0.310 J	1.00 U		mg/kg	L
NHFLA-MW5OB-C-AUG2020	N	Antimony	0.820	0.230 J	0.510 U		mg/kg	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB1-AUG2020 (EB)/ SN6964-4	Copper	0.6500	< 0.19	< 3	ug/l	U/None	V	
NHFLA-EB1-AUG2020 (EB)/ SN6964-4	Chromium	0.6700	< 0.22	< 5	ug/l	U/None	V	
NHFLA-EB1-AUG2020 (EB)/ SN6964-4	Manganese	0.6900	< 0.35	< 2	ug/l	U/None	V	
NHFLA-EB1-AUG2020 (EB)/ SN6964-4	Aluminum	10.00	< 4.4	< 100	ug/l	U/None	V	
NHFLA-EB1-AUG2020 (EB)/ SN6964-4	Sodium	120.0	< 19	< 1000	ug/l	U/None	V	
NHFLA-EB1-AUG2020 (EB)/ SN6964-4	Magnesium	13.00	< 8	< 100	ug/l	U/None	V	
NHFLA-EB1-AUG2020 (EB)/ SN6964-4	Calcium	25.00	< 21	< 100	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNH20IMW2 (LB)/ PBWNH20IMW2	Beryllium	0.04500	< 0.034	< 1	ug/l	U/None	L	
PBWNH20IMW2 (LB)/ PBWNH20IMW2	Cadmium	0.06700	< 0.03	< 1	ug/l	U/None	L	
PBWNH20IMW2 (LB)/ PBWNH20IMW2	Antimony	0.08900	< 0.054	< 1	ug/l	U/None	L	
PBWNH20IMW2 (LB)/ PBWNH20IMW2	Lead	0.09800	< 0.074	< 1	ug/l	U/None	L	
PBWNH20IMW2 (LB)/ PBWNH20IMW2	Cobalt	0.1000	< 0.061	< 1	ug/l	U/None	L	
PBWNH20IMW2 (LB)/ PBWNH20IMW2	Thallium	0.1600	< 0.061	< 1	ug/l	U/None	L	
PBWNH20IMW2 (LB)/ PBWNH20IMW2	Copper	0.3600	< 0.18	< 3	ug/l	U/None	L	
PBWNH20IMW2 (LB)/ PBWNH20IMW2	Barium	0.8500	< 0.27	< 2	ug/l	U/None	L	
PBWNH20IMW2 (LB)/ PBWNH20IMW2	Sodium	140.0	< 19	< 1000	ug/l	U/None	L	
PBWNH20IMW2 (LB)/ PBWNH20IMW2	Aluminum	6.900	< 4.4	< 100	ug/l	U/None	L	
PBWNH20IMW2 (LB)/ PBWNH20IMW2	Magnesium	9.800	< 7.8	< 100	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB1-AUG2020	EB	Aluminum	100	10.0 J	40.0 U		ug/l	L
NHFLA-EB1-AUG2020	EB	Copper	3.00	0.650 J	2.00 U		ug/l	L
NHFLA-EB1-AUG2020	EB	Magnesium	100	13.0 J	80.0 U		ug/l	L
NHFLA-EB1-AUG2020	EB	Sodium	1000	120 J	400 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW5OB-A-AUG2020 (N)/ SN6964-1		14.28	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-MW5OB-B-AUG2020 (N)/ SN6964-2		14.27	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-MW5OB-C-AUG2020 (N)/ SN6964-3		14.12	< 1	< 2	days	J/X	H1	Test Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7471, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW5OB-A-AUG2020 (SD)/ SN6964-001P	Mercury	-37.37	80 - 124	30 - 125	percent	J/X	M	
NHFLA-MW5OB-A-AUG2020 (MS)/ SN6964-001S	Mercury	-33.16	80 - 124	30 - 125	percent	J/X	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW7471

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW5OB-A-AUG2020	N	Mercury	0.190	0.377 N	0.377 J	-	mg/kg	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB1-AUG2020 (EB)/ SN6964-4	Acetone	4.500	< 2.2	< 5	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG284832-2 (LB)/ WG284832-2	Bromomethane	1.100	< 0.49	< 2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG284832-1 (BS)/ WG284832-1	Methylene chloride	125.0	74 - 124	10 - 124	percent	J/None	C	
WG284832-1 (BS)/ WG284832-1	Methyl tert-butyl ether (MTBE)	132.8	71 - 124	10 - 124	percent	J/None	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-TB1-AUG2020	TB	Methylene chloride	5.00	1.50 JL	1.50 J	+	ug/l	C/I/TR

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG284835-1 (BS)/ WG284835-1	Methylene chloride	64.20	70 - 128	10 - 128	percent	J/UJ	C	
WG284835-1 (BS)/ WG284835-1	Methyl tert-butyl ether (MTBE)	71.60	73 - 125	10 - 125	percent	J/UJ	C	
WG284835-1 (BS)/ WG284835-1	trans-1,2-Dichloroethene	72.20	74 - 125	10 - 125	percent	J/UJ	C	
WG284835-1 (BS)/ WG284835-1	Chloroform	75.60	78 - 123	10 - 123	percent	J/UJ	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW5OB-A-AUG2020	N	Chloroform	5.40	2.70 UL	2.70 UJ		ug/kg	C
NHFLA-MW5OB-A-AUG2020	N	Methyl tert-butyl ether (MTBE)	5.40	2.70 UL	2.70 UJ		ug/kg	C
NHFLA-MW5OB-A-AUG2020	N	Methylene chloride	27.0	13.0 UL	13.0 UJ		ug/kg	C
NHFLA-MW5OB-A-AUG2020	N	trans-1,2-Dichloroethene	5.40	2.70 UL	2.70 UJ		ug/kg	C
NHFLA-MW5OB-B-AUG2020	N	Chloroform	3.80	1.90 UL	1.90 UJ		ug/kg	C
NHFLA-MW5OB-B-AUG2020	N	Methyl tert-butyl ether (MTBE)	3.80	1.90 UL	1.90 UJ		ug/kg	C
NHFLA-MW5OB-B-AUG2020	N	Methylene chloride	19.0	9.40 UL	9.40 UJ		ug/kg	C
NHFLA-MW5OB-B-AUG2020	N	trans-1,2-Dichloroethene	3.80	1.90 UL	1.90 UJ		ug/kg	C
NHFLA-MW5OB-C-AUG2020	N	Chloroform	4.00	2.00 UL	2.00 UJ		ug/kg	C
NHFLA-MW5OB-C-AUG2020	N	Methyl tert-butyl ether (MTBE)	4.00	2.00 UL	2.00 UJ		ug/kg	C
NHFLA-MW5OB-C-AUG2020	N	Methylene chloride	20.0	10.0 UL	10.0 UJ		ug/kg	C
NHFLA-MW5OB-C-AUG2020	N	trans-1,2-Dichloroethene	4.00	2.00 UL	2.00 UJ		ug/kg	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-TB1-AUG2020 (TB)/ SN6964-5	1,2-Dichloroethane-d4	120.0	81 - 118	10 - 118	percent	J/None	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-TB1-AUG2020	TB	Methylene chloride	5.00	1.50 JL	1.50 J	+	ug/l	C/I/TR

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Trip Blank

The purpose of trip blanks is to determine the existence and magnitude of cross-contamination problems resulting from the shipping of samples. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in trip blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-TB1-AUG2020 (TB)/ SN6964-5	Methylene chloride	1.500	< 1.1	< 5	ug/l	U/None	T	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG284708-2 (BS)/ WG284708-2	Benzaldehyde	370.0	10 - 189	10 - 189	percent	J/None	C	
WG284708-2 (BS)/ WG284708-2	Caprolactam	5.100	10 - 86	10 - 86	percent	J/X	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB1-AUG2020	EB	Caprolactam	9.70	7.30 UL	7.30 X		ug/l	C/I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG284713-2 (BS)/ WG284713-2	4-Chloroaniline	0.000	17 - 106	10 - 106	percent	J/X	C	
WG284713-2 (BS)/ WG284713-2	Atrazine	13.83	47 - 127	10 - 127	percent	J/UJ	C	
WG284713-2 (BS)/ WG284713-2	Bis(2-ethylhexyl) phthalate	170.7	51 - 133	10 - 133	percent	J/None	C	
WG284713-2 (BS)/ WG284713-2	3-Nitroaniline	30.18	33 - 119	10 - 119	percent	J/UJ	C	
WG284713-2 (BS)/ WG284713-2	Caprolactam	30.48	46 - 117	10 - 117	percent	J/UJ	C	
WG284713-2 (BS)/ WG284713-2	Benzaldehyde	318.0	10 - 134	10 - 134	percent	J/None	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW5OB-A-AUG2020	N	3-Nitroaniline	980	740 UL	740 UJ		ug/kg	C
NHFLA-MW5OB-A-AUG2020	N	4-Chloroaniline	400	300 UL	300 X		ug/kg	C
NHFLA-MW5OB-A-AUG2020	N	Atrazine	400	300 UL	300 UJ		ug/kg	C
NHFLA-MW5OB-A-AUG2020	N	Bis(2-ethylhexyl) phthalate	400	4600 L	4600 J	+	ug/kg	C
NHFLA-MW5OB-A-AUG2020	N	Caprolactam	400	350 JL	350 J	-	ug/kg	C/TR
NHFLA-MW5OB-B-AUG2020	N	3-Nitroaniline	900	670 UL	670 UJ		ug/kg	C
NHFLA-MW5OB-B-AUG2020	N	4-Chloroaniline	360	270 UL	270 X		ug/kg	C
NHFLA-MW5OB-B-AUG2020	N	Atrazine	360	270 UL	270 UJ		ug/kg	C
NHFLA-MW5OB-B-AUG2020	N	Bis(2-ethylhexyl) phthalate	1100	9400 L	9400 J	+	ug/kg	C
NHFLA-MW5OB-B-AUG2020	N	Caprolactam	360	270 UL	270 UJ		ug/kg	C
NHFLA-MW5OB-C-AUG2020	N	3-Nitroaniline	760	570 UL	570 UJ		ug/kg	C
NHFLA-MW5OB-C-AUG2020	N	4-Chloroaniline	310	230 UL	230 X		ug/kg	C
NHFLA-MW5OB-C-AUG2020	N	Atrazine	310	230 UL	230 UJ		ug/kg	C
NHFLA-MW5OB-C-AUG2020	N	Bis(2-ethylhexyl) phthalate	610	6400 L	6400 J	+	ug/kg	C

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW5OB-C-AUG2020	N	Caprolactam	310	280 JL	280 J	-	ug/kg	C/TR

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB1-AUG2020 (EB)/ SN6964-4	2,4,6-Tribromophenol	14.10	43 - 140	10 - 140	percent	J/UJ	I	
NHFLA-EB1-AUG2020 (EB)/ SN6964-4	Terphenyl-d14	45.90	50 - 134	10 - 134	percent	J/UJ	I	
NHFLA-EB1-AUG2020 (EB)/ SN6964-4	Phenol-d6	6.240	10 - 90	10 - 90	percent	J/X	I	
NHFLA-EB1-AUG2020 (EB)/ SN6964-4	2-Fluorophenol	7.330	19 - 119	10 - 119	percent	J/X	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB1-AUG2020	EB	1,2,4,5-Tetrachlorobenzene	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	1,4-Dioxane (p-Dioxane)	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	2,2'-Oxybis(1-chloropropane)	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	2,4,5-Trichlorophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB1-AUG2020	EB	2,4,6-Trichlorophenol	9.70	7.30 U	7.30 X		ug/l	I
NHFLA-EB1-AUG2020	EB	2,4-Dichlorophenol	9.70	7.30 U	7.30 X		ug/l	I
NHFLA-EB1-AUG2020	EB	2,4-Dimethylphenol	9.70	7.30 U	7.30 X		ug/l	I
NHFLA-EB1-AUG2020	EB	2,4-Dinitrophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB1-AUG2020	EB	2,4-Dinitrotoluene	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	2,6-Dinitrotoluene	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	2-Chloronaphthalene	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	2-Chlorophenol	9.70	7.30 U	7.30 X		ug/l	I
NHFLA-EB1-AUG2020	EB	2-Methylphenol (o-Cresol)	9.70	7.30 U	7.30 X		ug/l	I
NHFLA-EB1-AUG2020	EB	2-Nitroaniline	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	2-Nitrophenol	9.70	7.30 U	7.30 X		ug/l	I
NHFLA-EB1-AUG2020	EB	3,3'-Dichlorobenzidine	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	3-Nitroaniline	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB1-AUG2020	EB	4-Bromophenyl phenyl ether	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	4-Chloro-3-methylphenol	9.70	7.30 U	7.30 X		ug/l	I
NHFLA-EB1-AUG2020	EB	4-Chloroaniline	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	4-Chlorophenyl phenyl ether	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	4-Nitroaniline	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	4-Nitrophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB1-AUG2020	EB	Acetophenone	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Atrazine	9.70	7.30 U	7.30 UJ		ug/l	I

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB1-AUG2020	EB	Benzaldehyde	9.70	7.30 UL	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Benzyl butyl phthalate	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Biphenyl (Diphenyl)	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Bis(2-chloroethoxy) methane	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Bis(2-ethylhexyl) phthalate	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Caprolactam	9.70	7.30 UL	7.30 X		ug/l	C/I
NHFLA-EB1-AUG2020	EB	Carbazole	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Cresols, m- & p-	9.70	7.30 U	7.30 X		ug/l	I
NHFLA-EB1-AUG2020	EB	Dibenzofuran	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Diethyl phthalate	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Dimethyl phthalate	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Di-n-butyl phthalate	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	di-n-Octyl phthalate	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Hexachlorobenzene	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Hexachlorobutadiene	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Hexachlorocyclopentadiene	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Hexachloroethane	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Isophorone	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Nitrobenzene	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	N-Nitrosodi-n-propylamine	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	N-Nitrosodiphenylamine	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Pentachlorophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB1-AUG2020	EB	Phenol	9.70	7.30 U	7.30 X		ug/l	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW5OB-C-AUG2020 (N)/ SN6964-3	2,4,6-Tribromophenol	30.60	39 - 132	10 - 132	percent	J/UJ	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW5OB-C-AUG2020	N	2,4,5-Trichlorophenol	760	570 U	570 UJ		ug/kg	I
NHFLA-MW5OB-C-AUG2020	N	2,4,6-Trichlorophenol	310	230 U	230 UJ		ug/kg	I
NHFLA-MW5OB-C-AUG2020	N	2,4-Dichlorophenol	310	230 U	230 UJ		ug/kg	I
NHFLA-MW5OB-C-AUG2020	N	2,4-Dimethylphenol	310	230 U	230 UJ		ug/kg	I
NHFLA-MW5OB-C-AUG2020	N	2,4-Dinitrophenol	760	570 U	570 UJ		ug/kg	I
NHFLA-MW5OB-C-AUG2020	N	2-Chlorophenol	310	230 U	230 UJ		ug/kg	I
NHFLA-MW5OB-C-AUG2020	N	2-Methylphenol (o-Cresol)	310	230 U	230 UJ		ug/kg	I
NHFLA-MW5OB-C-AUG2020	N	2-Nitrophenol	310	230 U	230 UJ		ug/kg	I
NHFLA-MW5OB-C-AUG2020	N	4,6-Dinitro-2-methylphenol	760	570 U	570 UJ		ug/kg	I
NHFLA-MW5OB-C-AUG2020	N	4-Bromophenyl phenyl ether	310	230 U	230 UJ		ug/kg	I
NHFLA-MW5OB-C-AUG2020	N	4-Chloro-3-methylphenol	310	230 U	230 UJ		ug/kg	I
NHFLA-MW5OB-C-AUG2020	N	4-Nitrophenol	760	570 U	570 UJ		ug/kg	I
NHFLA-MW5OB-C-AUG2020	N	Cresols, m- & p-	310	230 U	230 UJ		ug/kg	I
NHFLA-MW5OB-C-AUG2020	N	Pentachlorophenol	760	570 U	570 UJ		ug/kg	I
NHFLA-MW5OB-C-AUG2020	N	Phenol	310	230 U	230 UJ		ug/kg	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Table of All Qualified Results

Test Method: BNASIM	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB1-AUG2020	EB	2-Methylnaphthalene	0.190	0.0970 UL	0.0970 UJ		ug/l	C
NHFLA-EB1-AUG2020	EB	Benzo(a)anthracene	0.190	0.0970 UL	0.0970 UJ		ug/l	C
NHFLA-EB1-AUG2020	EB	Benzo(b)fluoranthene	0.190	0.0970 UL	0.0970 UJ		ug/l	C
NHFLA-EB1-AUG2020	EB	Benzo(g,h,i)perylene	0.190	0.0970 UL	0.0970 UJ		ug/l	C
NHFLA-EB1-AUG2020	EB	Dibenz(a,h)anthracene	0.190	0.0970 UL	0.0970 UJ		ug/l	C
NHFLA-EB1-AUG2020	EB	Indeno(1,2,3-c,d)pyrene	0.190	0.0970 UL	0.0970 UJ		ug/l	C

Test Method: SW6010	Extraction Method: SW3050							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW5OB-A-AUG2020	N	Antimony	0.890	0.200 J	0.550 U		mg/kg	L
NHFLA-MW5OB-B-AUG2020	N	Antimony	1.60	0.310 J	1.00 U		mg/kg	L
NHFLA-MW5OB-C-AUG2020	N	Antimony	0.820	0.230 J	0.510 U		mg/kg	L

Test Method: SW6020	Extraction Method: SW3010							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB1-AUG2020	EB	Aluminum	100	10.0 J	40.0 U		ug/l	L
NHFLA-EB1-AUG2020	EB	Copper	3.00	0.650 J	2.00 U		ug/l	L
NHFLA-EB1-AUG2020	EB	Magnesium	100	13.0 J	80.0 U		ug/l	L
NHFLA-EB1-AUG2020	EB	Sodium	1000	120 J	400 U		ug/l	L

Test Method: SW7471	Extraction Method: METHOD							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW5OB-A-AUG2020	N	Mercury	0.190	0.377 N	0.377 J	-	mg/kg	M

Test Method: SW8260	Extraction Method: SW5030							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-TB1-AUG2020	TB	Methylene chloride	5.00	1.50 JL	1.50 J	+	ug/l	C/I/TR

Test Method: SW8260	Extraction Method: SW5035							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW5OB-A-AUG2020	N	Chloroform	5.40	2.70 UL	2.70 UJ		ug/kg	C
NHFLA-MW5OB-A-AUG2020	N	Methyl tert-butyl ether (MTBE)	5.40	2.70 UL	2.70 UJ		ug/kg	C
NHFLA-MW5OB-A-AUG2020	N	Methylene chloride	27.0	13.0 UL	13.0 UJ		ug/kg	C
NHFLA-MW5OB-A-AUG2020	N	trans-1,2-Dichloroethene	5.40	2.70 UL	2.70 UJ		ug/kg	C
NHFLA-MW5OB-B-AUG2020	N	Chloroform	3.80	1.90 UL	1.90 UJ		ug/kg	C
NHFLA-MW5OB-B-AUG2020	N	Methyl tert-butyl ether (MTBE)	3.80	1.90 UL	1.90 UJ		ug/kg	C
NHFLA-MW5OB-B-AUG2020	N	Methylene chloride	19.0	9.40 UL	9.40 UJ		ug/kg	C

Table of All Qualified Results

Test Method: SW8260	Extraction Method: SW5035							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW5OB-B-AUG2020	N	trans-1,2-Dichloroethene	3.80	1.90 UL	1.90 UJ		ug/kg	C
NHFLA-MW5OB-C-AUG2020	N	Chloroform	4.00	2.00 UL	2.00 UJ		ug/kg	C
NHFLA-MW5OB-C-AUG2020	N	Methyl tert-butyl ether (MTBE)	4.00	2.00 UL	2.00 UJ		ug/kg	C
NHFLA-MW5OB-C-AUG2020	N	Methylene chloride	20.0	10.0 UL	10.0 UJ		ug/kg	C
NHFLA-MW5OB-C-AUG2020	N	trans-1,2-Dichloroethene	4.00	2.00 UL	2.00 UJ		ug/kg	C

Test Method: SW8270	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB1-AUG2020	EB	1,2,4,5-Tetrachlorobenzene	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	1,4-Dioxane (p-Dioxane)	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	2,2'-Oxybis(1-chloropropane)	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	2,4,5-Trichlorophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB1-AUG2020	EB	2,4,6-Trichlorophenol	9.70	7.30 U	7.30 X		ug/l	I
NHFLA-EB1-AUG2020	EB	2,4-Dichlorophenol	9.70	7.30 U	7.30 X		ug/l	I
NHFLA-EB1-AUG2020	EB	2,4-Dimethylphenol	9.70	7.30 U	7.30 X		ug/l	I
NHFLA-EB1-AUG2020	EB	2,4-Dinitrophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB1-AUG2020	EB	2,4-Dinitrotoluene	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	2,6-Dinitrotoluene	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	2-Chloronaphthalene	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	2-Chlorophenol	9.70	7.30 U	7.30 X		ug/l	I
NHFLA-EB1-AUG2020	EB	2-Methylphenol (o-Cresol)	9.70	7.30 U	7.30 X		ug/l	I
NHFLA-EB1-AUG2020	EB	2-Nitroaniline	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	2-Nitrophenol	9.70	7.30 U	7.30 X		ug/l	I
NHFLA-EB1-AUG2020	EB	3,3'-Dichlorobenzidine	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	3-Nitroaniline	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB1-AUG2020	EB	4-Bromophenyl phenyl ether	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	4-Chloro-3-methylphenol	9.70	7.30 U	7.30 X		ug/l	I
NHFLA-EB1-AUG2020	EB	4-Chloroaniline	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	4-Chlorophenyl phenyl ether	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	4-Nitroaniline	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	4-Nitrophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB1-AUG2020	EB	Acetophenone	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Atrazine	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Benzaldehyde	9.70	7.30 UL	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Benzyl butyl phthalate	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Biphenyl (Diphenyl)	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Bis(2-chloroethoxy) methane	9.70	7.30 U	7.30 UJ		ug/l	I

Table of All Qualified Results

Test Method: SW8270	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB1-AUG2020	EB	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Bis(2-ethylhexyl) phthalate	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Caprolactam	9.70	7.30 UL	7.30 X		ug/l	C/I
NHFLA-EB1-AUG2020	EB	Carbazole	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Cresols, m- & p-	9.70	7.30 U	7.30 X		ug/l	I
NHFLA-EB1-AUG2020	EB	Dibenzofuran	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Diethyl phthalate	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Dimethyl phthalate	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Di-n-butyl phthalate	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	di-n-Octyl phthalate	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Hexachlorobenzene	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Hexachlorobutadiene	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Hexachlorocyclopentadiene	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Hexachloroethane	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Isophorone	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Nitrobenzene	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	N-Nitrosodi-n-propylamine	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	N-Nitrosodiphenylamine	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB1-AUG2020	EB	Pentachlorophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB1-AUG2020	EB	Phenol	9.70	7.30 U	7.30 X		ug/l	I

Test Method: SW8270	Extraction Method: SW3550							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW5OB-A-AUG2020	N	3-Nitroaniline	980	740 UL	740 UJ		ug/kg	C
NHFLA-MW5OB-A-AUG2020	N	4-Chloroaniline	400	300 UL	300 X		ug/kg	C
NHFLA-MW5OB-A-AUG2020	N	Atrazine	400	300 UL	300 UJ		ug/kg	C
NHFLA-MW5OB-A-AUG2020	N	Bis(2-ethylhexyl) phthalate	400	4600 L	4600 J	+	ug/kg	C
NHFLA-MW5OB-A-AUG2020	N	Caprolactam	400	350 JL	350 J	-	ug/kg	C/TR
NHFLA-MW5OB-B-AUG2020	N	3-Nitroaniline	900	670 UL	670 UJ		ug/kg	C
NHFLA-MW5OB-B-AUG2020	N	4-Chloroaniline	360	270 UL	270 X		ug/kg	C
NHFLA-MW5OB-B-AUG2020	N	Atrazine	360	270 UL	270 UJ		ug/kg	C
NHFLA-MW5OB-B-AUG2020	N	Bis(2-ethylhexyl) phthalate	1100	9400 L	9400 J	+	ug/kg	C
NHFLA-MW5OB-B-AUG2020	N	Caprolactam	360	270 UL	270 UJ		ug/kg	C
NHFLA-MW5OB-C-AUG2020	N	2,4,5-Trichlorophenol	760	570 U	570 UJ		ug/kg	I
NHFLA-MW5OB-C-AUG2020	N	2,4,6-Trichlorophenol	310	230 U	230 UJ		ug/kg	I

Table of All Qualified Results

Test Method: SW8270	Extraction Method: SW3550							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW5OB-C-AUG2020	N	2,4-Dichlorophenol	310	230 U	230 UJ		ug/kg	I
NHFLA-MW5OB-C-AUG2020	N	2,4-Dimethylphenol	310	230 U	230 UJ		ug/kg	I
NHFLA-MW5OB-C-AUG2020	N	2,4-Dinitrophenol	760	570 U	570 UJ		ug/kg	I
NHFLA-MW5OB-C-AUG2020	N	2-Chlorophenol	310	230 U	230 UJ		ug/kg	I
NHFLA-MW5OB-C-AUG2020	N	2-Methylphenol (o-Cresol)	310	230 U	230 UJ		ug/kg	I
NHFLA-MW5OB-C-AUG2020	N	2-Nitrophenol	310	230 U	230 UJ		ug/kg	I
NHFLA-MW5OB-C-AUG2020	N	4,6-Dinitro-2-methylphenol	760	570 U	570 UJ		ug/kg	I
NHFLA-MW5OB-C-AUG2020	N	4-Bromophenyl phenyl ether	310	230 U	230 UJ		ug/kg	I
NHFLA-MW5OB-C-AUG2020	N	4-Chloro-3-methylphenol	310	230 U	230 UJ		ug/kg	I
NHFLA-MW5OB-C-AUG2020	N	4-Nitrophenol	760	570 U	570 UJ		ug/kg	I
NHFLA-MW5OB-C-AUG2020	N	Cresols, m- & p-	310	230 U	230 UJ		ug/kg	I
NHFLA-MW5OB-C-AUG2020	N	Pentachlorophenol	760	570 U	570 UJ		ug/kg	I
NHFLA-MW5OB-C-AUG2020	N	Phenol	310	230 U	230 UJ		ug/kg	I
NHFLA-MW5OB-C-AUG2020	N	3-Nitroaniline	760	570 UL	570 UJ		ug/kg	C
NHFLA-MW5OB-C-AUG2020	N	4-Chloroaniline	310	230 UL	230 X		ug/kg	C
NHFLA-MW5OB-C-AUG2020	N	Atrazine	310	230 UL	230 UJ		ug/kg	C
NHFLA-MW5OB-C-AUG2020	N	Bis(2-ethylhexyl) phthalate	610	6400 L	6400 J	+	ug/kg	C
NHFLA-MW5OB-C-AUG2020	N	Caprolactam	310	280 JL	280 J	-	ug/kg	C/TR

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method LYDKHN

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW5OB-A-AUG2020	N	Total Organic Carbon	540	39000	39000 J	39000	
NHFLA-MW5OB-B-AUG2020	N	Total Organic Carbon	630	8000	8000 J	8000	
NHFLA-MW5OB-C-AUG2020	N	Total Organic Carbon	640	39000	39000 J	39000	

Modified Qualifiers for test method SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW5OB-A-AUG2020	N	Sodium	220	66.8 J	66.8 U	66.8 J	TR
NHFLA-MW5OB-B-AUG2020	N	Sodium	200	85.5 J	85.5 U	85.5 J	TR
NHFLA-MW5OB-C-AUG2020	N	Sodium	200	173 J	173 U	173 J	TR

Modified Qualifiers for test method SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW5OB-A-AUG2020	N	Chromium, Hexavalent	2.70	1.60 U	1.60 X	1.60 U	
NHFLA-MW5OB-B-AUG2020	N	Chromium, Hexavalent	0.590	0.260 J	0.260 J	0.260 J	TR
NHFLA-MW5OB-C-AUG2020	N	Chromium, Hexavalent	0.520	0.310 U	0.310 X	0.310 U	

Modified Qualifiers for test method SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB1-AUG2020	EB	1,2,4,5-Tetrachlorobenzene	9.70	7.30 U	7.30 X	7.30 UJ	I
NHFLA-EB1-AUG2020	EB	1,4-Dioxane (p-Dioxane)	9.70	7.30 U	7.30 X	7.30 UJ	I
NHFLA-EB1-AUG2020	EB	2,2'-Oxybis(1-chloropropane)	9.70	7.30 U	7.30 X	7.30 UJ	I
NHFLA-EB1-AUG2020	EB	2,4-Dinitrotoluene	9.70	7.30 U	7.30 X	7.30 UJ	I
NHFLA-EB1-AUG2020	EB	2,6-Dinitrotoluene	9.70	7.30 U	7.30 X	7.30 UJ	I
NHFLA-EB1-AUG2020	EB	2-Chloronaphthalene	9.70	7.30 U	7.30 X	7.30 UJ	I
NHFLA-EB1-AUG2020	EB	2-Nitroaniline	24.0	18.0 U	18.0 X	18.0 UJ	I
NHFLA-EB1-AUG2020	EB	3,3'-Dichlorobenzidine	9.70	7.30 U	7.30 X	7.30 UJ	I
NHFLA-EB1-AUG2020	EB	3-Nitroaniline	24.0	18.0 U	18.0 X	18.0 UJ	I
NHFLA-EB1-AUG2020	EB	4-Bromophenyl phenyl ether	9.70	7.30 U	7.30 X	7.30 UJ	I
NHFLA-EB1-AUG2020	EB	4-Chloroaniline	9.70	7.30 U	7.30 X	7.30 UJ	I
NHFLA-EB1-AUG2020	EB	4-Chlorophenyl phenyl ether	9.70	7.30 U	7.30 X	7.30 UJ	I
NHFLA-EB1-AUG2020	EB	4-Nitroaniline	24.0	18.0 U	18.0 X	18.0 UJ	I
NHFLA-EB1-AUG2020	EB	Acetophenone	9.70	7.30 U	7.30 X	7.30 UJ	I
NHFLA-EB1-AUG2020	EB	Atrazine	9.70	7.30 U	7.30 X	7.30 UJ	I
NHFLA-EB1-AUG2020	EB	Benzaldehyde	9.70	7.30 UL	7.30 X	7.30 UJ	I
NHFLA-EB1-AUG2020	EB	Benzyl butyl phthalate	9.70	7.30 U	7.30 X	7.30 UJ	I

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB1-AUG2020	EB	Biphenyl (Diphenyl)	9.70	7.30 U	7.30 X	7.30 UJ	I
NHFLA-EB1-AUG2020	EB	Bis(2-chloroethoxy) methane	9.70	7.30 U	7.30 X	7.30 UJ	I
NHFLA-EB1-AUG2020	EB	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.70	7.30 U	7.30 X	7.30 UJ	I
NHFLA-EB1-AUG2020	EB	Bis(2-ethylhexyl) phthalate	9.70	7.30 U	7.30 X	7.30 UJ	I
NHFLA-EB1-AUG2020	EB	Carbazole	9.70	7.30 U	7.30 X	7.30 UJ	I
NHFLA-EB1-AUG2020	EB	Dibenzofuran	9.70	7.30 U	7.30 X	7.30 UJ	I
NHFLA-EB1-AUG2020	EB	Diethyl phthalate	9.70	7.30 U	7.30 X	7.30 UJ	I
NHFLA-EB1-AUG2020	EB	Dimethyl phthalate	9.70	7.30 U	7.30 X	7.30 UJ	I
NHFLA-EB1-AUG2020	EB	Di-n-butyl phthalate	9.70	7.30 U	7.30 X	7.30 UJ	I
NHFLA-EB1-AUG2020	EB	di-n-Octyl phthalate	9.70	7.30 U	7.30 X	7.30 UJ	I
NHFLA-EB1-AUG2020	EB	Hexachlorobenzene	9.70	7.30 U	7.30 X	7.30 UJ	I
NHFLA-EB1-AUG2020	EB	Hexachlorobutadiene	9.70	7.30 U	7.30 X	7.30 UJ	I
NHFLA-EB1-AUG2020	EB	Hexachlorocyclopentadiene	9.70	7.30 U	7.30 X	7.30 UJ	I
NHFLA-EB1-AUG2020	EB	Hexachloroethane	9.70	7.30 U	7.30 X	7.30 UJ	I
NHFLA-EB1-AUG2020	EB	Isophorone	9.70	7.30 U	7.30 X	7.30 UJ	I
NHFLA-EB1-AUG2020	EB	Nitrobenzene	9.70	7.30 U	7.30 X	7.30 UJ	I
NHFLA-EB1-AUG2020	EB	N-Nitrosodi-n-propylamine	9.70	7.30 U	7.30 X	7.30 UJ	I
NHFLA-EB1-AUG2020	EB	N-Nitrosodiphenylamine	9.70	7.30 U	7.30 X	7.30 UJ	I

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW5OB-C-AUG2020	N	1,2,4,5-Tetrachlorobenzene	310	230 U	230 UJ	230 U	
NHFLA-MW5OB-C-AUG2020	N	1,4-Dioxane (p-Dioxane)	310	230 U	230 UJ	230 U	
NHFLA-MW5OB-C-AUG2020	N	2,2'-Oxybis(1-chloropropane)	310	230 U	230 UJ	230 U	
NHFLA-MW5OB-C-AUG2020	N	2,4-Dinitrotoluene	310	230 U	230 UJ	230 U	
NHFLA-MW5OB-C-AUG2020	N	2,6-Dinitrotoluene	310	230 U	230 UJ	230 U	
NHFLA-MW5OB-C-AUG2020	N	2-Chloronaphthalene	310	230 U	230 UJ	230 U	
NHFLA-MW5OB-C-AUG2020	N	2-Nitroaniline	760	570 U	570 UJ	570 U	
NHFLA-MW5OB-C-AUG2020	N	3,3'-Dichlorobenzidine	310	230 U	230 UJ	230 U	
NHFLA-MW5OB-C-AUG2020	N	3-Nitroaniline	760	570 UL	570 UJ	570 UJ	C
NHFLA-MW5OB-C-AUG2020	N	4-Chloroaniline	310	230 UL	230 X	230 X	C
NHFLA-MW5OB-C-AUG2020	N	4-Chlorophenyl phenyl ether	310	230 U	230 UJ	230 U	
NHFLA-MW5OB-C-AUG2020	N	4-Nitroaniline	760	570 U	570 UJ	570 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW5OB-C-AUG2020	N	Acetophenone	310	230 U	230 UJ	230 U	
NHFLA-MW5OB-C-AUG2020	N	Atrazine	310	230 UL	230 UJ	230 UJ	C
NHFLA-MW5OB-C-AUG2020	N	Benzaldehyde	310	230 UL	230 UJ	230 U	
NHFLA-MW5OB-C-AUG2020	N	Benzyl butyl phthalate	310	230 U	230 UJ	230 U	
NHFLA-MW5OB-C-AUG2020	N	Biphenyl (Diphenyl)	310	230 U	230 UJ	230 U	
NHFLA-MW5OB-C-AUG2020	N	Bis(2-chloroethoxy) methane	310	230 U	230 UJ	230 U	
NHFLA-MW5OB-C-AUG2020	N	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	310	230 U	230 UJ	230 U	
NHFLA-MW5OB-C-AUG2020	N	Caprolactam	310	280 JL	280 J	280 J	C/TR
NHFLA-MW5OB-C-AUG2020	N	Carbazole	310	230 U	230 UJ	230 U	
NHFLA-MW5OB-C-AUG2020	N	Dibenzofuran	310	230 U	230 UJ	230 U	
NHFLA-MW5OB-C-AUG2020	N	Diethyl phthalate	310	230 U	230 UJ	230 U	
NHFLA-MW5OB-C-AUG2020	N	Dimethyl phthalate	310	230 U	230 UJ	230 U	
NHFLA-MW5OB-C-AUG2020	N	Di-n-butyl phthalate	310	230 U	230 UJ	230 U	
NHFLA-MW5OB-C-AUG2020	N	di-n-Octyl phthalate	310	230 U	230 UJ	230 U	
NHFLA-MW5OB-C-AUG2020	N	Hexachlorobenzene	310	230 U	230 UJ	230 U	
NHFLA-MW5OB-C-AUG2020	N	Hexachlorobutadiene	310	230 U	230 UJ	230 U	
NHFLA-MW5OB-C-AUG2020	N	Hexachlorocyclopentadiene	310	230 U	230 UJ	230 U	
NHFLA-MW5OB-C-AUG2020	N	Hexachloroethane	310	230 U	230 UJ	230 U	
NHFLA-MW5OB-C-AUG2020	N	Isophorone	310	230 U	230 UJ	230 U	
NHFLA-MW5OB-C-AUG2020	N	Nitrobenzene	310	230 U	230 UJ	230 U	
NHFLA-MW5OB-C-AUG2020	N	N-Nitrosodi-n-propylamine	310	230 U	230 UJ	230 U	
NHFLA-MW5OB-C-AUG2020	N	N-Nitrosodiphenylamine	310	230 U	230 UJ	230 U	

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Rejected Results

Test Method: SW8270 Extraction Method: SW3510 Leach Method: NONE

FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-EB1-AUG2020	SN6964-4	W	EB	2,4,5-Trichlorophenol	24.0	18.0 U	18.0 X	ug/l	I
NHFLA-EB1-AUG2020	SN6964-4	W	EB	2,4,6-Trichlorophenol	9.70	7.30 U	7.30 X	ug/l	I
NHFLA-EB1-AUG2020	SN6964-4	W	EB	2,4-Dichlorophenol	9.70	7.30 U	7.30 X	ug/l	I
NHFLA-EB1-AUG2020	SN6964-4	W	EB	2,4-Dimethylphenol	9.70	7.30 U	7.30 X	ug/l	I
NHFLA-EB1-AUG2020	SN6964-4	W	EB	2,4-Dinitrophenol	24.0	18.0 U	18.0 X	ug/l	I
NHFLA-EB1-AUG2020	SN6964-4	W	EB	2-Chlorophenol	9.70	7.30 U	7.30 X	ug/l	I
NHFLA-EB1-AUG2020	SN6964-4	W	EB	2-Methylphenol (o-Cresol)	9.70	7.30 U	7.30 X	ug/l	I
NHFLA-EB1-AUG2020	SN6964-4	W	EB	2-Nitrophenol	9.70	7.30 U	7.30 X	ug/l	I
NHFLA-EB1-AUG2020	SN6964-4	W	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 U	18.0 X	ug/l	I
NHFLA-EB1-AUG2020	SN6964-4	W	EB	4-Chloro-3-methylphenol	9.70	7.30 U	7.30 X	ug/l	I
NHFLA-EB1-AUG2020	SN6964-4	W	EB	4-Nitrophenol	24.0	18.0 U	18.0 X	ug/l	I
NHFLA-EB1-AUG2020	SN6964-4	W	EB	Caprolactam	9.70	7.30 UL	7.30 X	ug/l	C/I
NHFLA-EB1-AUG2020	SN6964-4	W	EB	Cresols, m- & p-	9.70	7.30 U	7.30 X	ug/l	I
NHFLA-EB1-AUG2020	SN6964-4	W	EB	Pentachlorophenol	24.0	18.0 U	18.0 X	ug/l	I
NHFLA-EB1-AUG2020	SN6964-4	W	EB	Phenol	9.70	7.30 U	7.30 X	ug/l	I

Test Method: SW8270 Extraction Method: SW3550 Leach Method: NONE

FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-MW5OB-A-AUG2020	SN6964-1	S	N	4-Chloroaniline	400	300 UL	300 X	ug/kg	C
NHFLA-MW5OB-B-AUG2020	SN6964-2	S	N	4-Chloroaniline	360	270 UL	270 X	ug/kg	C
NHFLA-MW5OB-C-AUG2020	SN6964-3	S	N	4-Chloroaniline	310	230 UL	230 X	ug/kg	C

Automated Data Review Detail Report for SN6964_1
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
SW6010/SW3050/NONE	3	21
SW7196/SW3060/NONE	3	3
SW7471/METHOD/NONE	2	2
SW8260/SW5035/NONE	1	4
SW8270/SW3550/NONE	3	61

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-MW5OB-A-AUG2020	N	1	Antimony	0.550 U	0.0780	0.550	0.890	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW5OB-A-AUG2020	N	1	Arsenic	7.16	0.0750	0.550	0.890	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW5OB-A-AUG2020	N	1	Cadmium	0.380 J	0.00880	0.330	0.550	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW5OB-A-AUG2020	N	1	Cobalt	7.90	0.0320	0.440	1.10	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW5OB-A-AUG2020	N	1	Selenium	1.00 J	0.190	0.780	1.10	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW5OB-A-AUG2020	N	2	Silver	0.920 J	0.0600	0.890	2.20	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW5OB-A-AUG2020	N	2	Thallium	1.10 U	0.190	1.10	3.30	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW5OB-B-AUG2020	N	2	Antimony	1.00 U	0.140	1.00	1.60	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW5OB-B-AUG2020	N	2	Arsenic	10.1	0.140	1.00	1.60	0.226666	mg/Kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-MW5OB-B-AUG2020	N	2	Cadmium	0.834 J	0.0160	0.600	1.00	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW5OB-B-AUG2020	N	2	Cobalt	12.0	0.0580	0.800	2.00	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW5OB-B-AUG2020	N	2	Selenium	1.70 J	0.340	1.40	2.00	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW5OB-B-AUG2020	N	2	Silver	1.28 J	0.0540	0.800	2.00	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW5OB-B-AUG2020	N	2	Thallium	1.00 U	0.170	1.00	3.00	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW5OB-C-AUG2020	N	1	Antimony	0.510 U	0.0720	0.510	0.820	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW5OB-C-AUG2020	N	1	Arsenic	9.94	0.0700	0.510	0.820	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW5OB-C-AUG2020	N	1	Cadmium	0.110 J	0.00810	0.310	0.510	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW5OB-C-AUG2020	N	1	Cobalt	9.46	0.0300	0.410	1.00	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW5OB-C-AUG2020	N	1	Selenium	1.40	0.170	0.720	1.00	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW5OB-C-AUG2020	N	2	Silver	0.830 J	0.0560	0.820	2.00	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW5OB-C-AUG2020	N	2	Thallium	1.40 J	0.180	1.00	3.10	0.016666	mg/Kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7196/SW3060/NONE	NHFLA-MW5OB-A-AUG2020	N	5	Chromium, Hexavalent	1.60 U	0.800	1.60	2.70	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-MW5OB-B-AUG2020	N	1.2	Chromium, Hexavalent	0.260 J	0.180	0.350	0.590	0.4	mg/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7196/SW3060/NONE	NHFLA-MW5OB-C-AUG2020	N	1.2	Chromium, Hexavalent	0.310 U	0.160	0.310	0.520	0.4	mg/kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7471/METHOD/NONE	NHFLA-MW5OB-A-AUG2020	N	5	Mercury	0.377 J	0.0290	0.0960	0.190	0.033	mg/Kg
SW7471/METHOD/NONE	NHFLA-MW5OB-B-AUG2020	N	1	Mercury	0.0652	0.00580	0.0190	0.0370	0.033	mg/Kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8260/SW5035/NONE	NHFLA-MW5OB-A-AUG2020	N	1	1,2-Dibromo-3-chloropropane	2.70 U	1.60	2.70	5.40	5	ug/kg
SW8260/SW5035/NONE	NHFLA-MW5OB-A-AUG2020	N	1	Bromomethane	5.40 U	1.20	5.40	11.0	10	ug/kg
SW8260/SW5035/NONE	NHFLA-MW5OB-A-AUG2020	N	1	Carbon disulfide	2.70 U	0.840	2.70	5.40	5	ug/kg
SW8260/SW5035/NONE	NHFLA-MW5OB-A-AUG2020	N	1	Vinyl chloride	5.40 U	0.940	5.40	11.0	10	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW5OB-A-AUG2020	N	1	1,2,4,5-Tetrachlorobenzene	300 U	160	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-A-AUG2020	N	1	2,4-Dichlorophenol	300 U	180	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-A-AUG2020	N	1	2,4-Dimethylphenol	300 U	200	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-A-AUG2020	N	1	2,4-Dinitrophenol	740 U	450	740	980	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-A-AUG2020	N	1	2,6-Dinitrotoluene	300 U	95.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-A-AUG2020	N	1	2-Chlorophenol	300 U	200	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-A-AUG2020	N	1	2-Methylphenol (o-Cresol)	300 U	240	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-A-AUG2020	N	1	2-Nitroaniline	740 U	90.0	740	980	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-A-AUG2020	N	1	3,3'-Dichlorobenzidine	300 U	140	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-A-AUG2020	N	1	4,6-Dinitro-2-methylphenol	740 U	400	740	980	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-A-AUG2020	N	1	4-Chloroaniline	300 X	140	300	400	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-A-AUG2020	N	1	Atrazine	300 UJ	110	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-A-AUG2020	N	1	Benzyl butyl phthalate	300 U	110	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-A-AUG2020	N	1	Biphenyl (Diphenyl)	300 U	87.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-A-AUG2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	300 U	97.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-A-AUG2020	N	1	bis(2-Ethylhexyl) phthalate	4600 J	120	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-A-AUG2020	N	1	Carbazole	300 U	130	300	400	330	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW5OB-A-AUG2020	N	1	Dibenzofuran	300 U	95.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-A-AUG2020	N	1	Diethyl phthalate	300 U	96.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-A-AUG2020	N	1	Dimethyl phthalate	300 U	93.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-A-AUG2020	N	1	Di-n-butyl phthalate	300 U	120	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-A-AUG2020	N	1	Di-n-octyl phthalate	300 U	250	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-A-AUG2020	N	1	Hexachlorobenzene	300 U	98.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-A-AUG2020	N	1	Hexachlorobutadiene	300 U	99.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-A-AUG2020	N	1	Hexachlorocyclopentadiene	300 U	98.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-A-AUG2020	N	1	Hexachloroethane	300 U	120	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-A-AUG2020	N	1	n-Nitrosodi-n-propylamine	300 U	99.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-A-AUG2020	N	1	n-Nitrosodiphenylamine	300 U	260	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-A-AUG2020	N	1	Pentachlorophenol	740 U	280	740	980	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-A-AUG2020	N	1	Phenol	300 U	190	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-B-AUG2020	N	1	1,2,4,5-Tetrachlorobenzene	270 U	150	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-B-AUG2020	N	1	2,4-Dichlorophenol	270 U	160	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-B-AUG2020	N	1	2,4-Dimethylphenol	270 U	180	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-B-AUG2020	N	1	2,4-Dinitrophenol	670 U	410	670	900	820	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW5OB-B-AUG2020	N	1	2,6-Dinitrotoluene	270 U	86.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-B-AUG2020	N	1	2-Chlorophenol	270 U	180	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-B-AUG2020	N	1	2-Methylphenol (o-Cresol)	270 U	220	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-B-AUG2020	N	1	2-Nitroaniline	670 U	82.0	670	900	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-B-AUG2020	N	1	3,3'-Dichlorobenzidine	270 U	120	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-B-AUG2020	N	1	4,6-Dinitro-2-methylphenol	670 U	370	670	900	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-B-AUG2020	N	1	4-Chloroaniline	270 X	130	270	360	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-B-AUG2020	N	1	Atrazine	270 UJ	100	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-B-AUG2020	N	1	Benzyl butyl phthalate	270 U	100	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-B-AUG2020	N	1	Biphenyl (Diphenyl)	270 U	80.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-B-AUG2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	270 U	88.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-B-AUG2020	N	3	bis(2-Ethylhexyl) phthalate	9400 J	320	810	1100	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-B-AUG2020	N	1	Carbazole	270 U	120	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-B-AUG2020	N	1	Dibenzofuran	270 U	86.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-B-AUG2020	N	1	Diethyl phthalate	270 U	87.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-B-AUG2020	N	1	Dimethyl phthalate	270 U	85.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-B-AUG2020	N	1	Di-n-butyl phthalate	270 U	110	270	360	330	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW5OB-B-AUG2020	N	1	Di-n-octyl phthalate	270 U	230	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-B-AUG2020	N	1	Hexachlorobenzene	270 U	90.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-B-AUG2020	N	1	Hexachlorobutadiene	270 U	91.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-B-AUG2020	N	1	Hexachlorocyclopentadiene	270 U	90.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-B-AUG2020	N	1	Hexachloroethane	270 U	100	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-B-AUG2020	N	1	n-Nitrosodi-n-propylamine	270 U	91.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-B-AUG2020	N	1	n-Nitrosodiphenylamine	270 U	240	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-B-AUG2020	N	1	Pentachlorophenol	670 U	260	670	900	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-B-AUG2020	N	1	Phenol	270 U	170	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW5OB-C-AUG2020	N	2	bis(2-Ethylhexyl) phthalate	6400 J	180	460	610	330	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
C	LCS Recovery
H1	Test Hold Time
H2	Prep Hold Time
I	Surrogate recovery outside project limits.
L	Lab Blank
M	MS Recovery
T	Trip Blank
TR	Trace Level Detect
V	Equipment Blank

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

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Review Questions

Method: BNASIM

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			Field sample surrogate recoveries acceptable. QC batch method blank WG284709-5 had 1 of 3 surrogates biased high - no qualification required.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC WG284709-5 detection below LOQ for chrysene did not result in field sample result qualifications.
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?		•		QC WG284709-6 low bias recoveries for 2-methylnaphthalene, benzo (a)anthracene, benzo(b)fluoranthene, indeno(123cd)pyrene, dibenzo (ah)anthracene and benzo(ghi)perylene. Sample -004 results for all these target analytes were qualified as estimated with UJ/C flags/reason codes.
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Calibration outliers as noted in SDG case narrative were not addressed as part of this stage 2A review.
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

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Review Questions

Method: LYDKHN

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			Removed H2 flags for soil samples since all were analyzed within project criteria (3 days vs 28 days recommended).
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

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Review Questions

Method: SW6010

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC NH26ICS1 detections below LOQ for aluminum, antimony, chromium, magnesium, potassium, sodium, zinc and above LOQ for lead. Client samples - 001, -002, -003 antimony results qualified U/L flags/reason codes. Removes U/L flags for sodium for all results.
Were target analytes in the field blank less than MDL?		•		equipment blank detections not used to qualify field sample results. See method 6020 review for details.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

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Review Questions

Method: SW6020

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC NH20IMW2 detections below LOQ for aluminum, antimony, barium, beryllium, cadmium, cobalt, copper, lead, magnesium, sodium, thallium. Sample -004 results for aluminum, copper, magnesium, sodium qualified U/L flags/reason codes.
Were target analytes in the field blank less than MDL?		•		See above for equipment blank detections - qualified U based on method blank detections.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

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Review Questions

Method: SW7196

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			Removed H1 qualifiers for soil samples - tested in 13 days versus project criteria of 28 days.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			MS only
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

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Review Questions

Method: SW7470

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

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Review Questions

Method: SW7471

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -001 MS/MSD recoveries biased low (recoveries less than 10%). Sample qualified with J/M flags/reason codes.
Was the MS/MSD RPD within project acceptance limits?	•			
Were the post spike recoveries within project acceptance limits?	•			
Were the serial dilution RPD values within project acceptance limits?	•			
Was the laboratory duplicate RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

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Review Questions

Method: SW8260

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Sample -005 one of 4 surrogates biased high. J/I flag/reason code assigned to sample -005 methylene chloride detection.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC WG284832-2 detections below LOQ for bromomethane did not require qualification for field sample results.
Were target analytes in the field blank less than MDL?		•		equipment blank - acetone at 4.5J and trip blank - methylene chloride at 1.5J.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?		•		QC WG284832-1 high bias for methylene chloride and MTBE - Sample -005 J/C flag/reason codes for methylene chloride. QC WG284835-1 low bias for methylene chloride, trans-1,2-dichloroethylene, MTBE, chloroform - UJ/C flags/reason codes for these analyte results in samples -001, -002, -003.
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

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Review Questions

Method: SW8270

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Samples -003 and -003DL had 1 of 3 acid fraction surrogates biased low. Client sample -003 acid fraction analytes were qualified with UJ/I flags/reason codes. NOTE: base-neutral fraction analyte flags were removed from database.Sample -004 acid fraction surrogates were outliers biased low and less than 10% for 2 of 3 surrogates and biased low above 10% recovery for 1 of 3 acid and base-neutral fraction surrogates. Sample -004 acid fraction analyte results were qualified rejected with X/I flags qualifiers and base-neutral analyte results qualified estimated with UJ/I flags/reason codes.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?		•		QC WG284713-2 recoveries biased low for atrazine, caprolactam, 3-nitroaniline - samples -001, -002, -003 results for these analytes qualified J/UJ flags with C reason codes. Recovery for 4-chloroaniline biased low below reject limit so these results in samples -001, -002, -003 qualified X/C. Benzaldehyde and bis-2-ethylhexylphthalate biased high - samples -001, -002, -003 bis-2-ethylhexylphthalate results qualified J/L. QC WG284708-2 benzaldehyde biased high - no qualifications required and caprolactam biased low below project lower rejection level so sample -004 caprolactam result qualified as rejected with X/C flag.
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Calibration outliers as noted in SDG case narrative were not addressed as part of this stage 2A review.

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Review Questions

Method: SW8270

Review Questions	Yes	No	NA	Comment
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?	•			Method 8270: Sample -004 acid fraction results and caprolactam. Samples -001, -002, -003 4-chloroaniline results.

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Review Questions

Method: SW9045

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?			•	
Were target analytes in the method blank less than MDL?			•	
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	SN7007
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Katahdin Analytical Services, Westbrook, ME
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	December 09, 2020 - revised report submitted January 24, 2021 - based on DoD chemist review feedback.

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	BNASIM	LYDKHN	SW6010	SW6020	SW7196	SW7470	SW7471	SW8260	SW8270	SW9045
NHFLA-MW1OB-A-AUG2020	SN7007-1	Solid	Field Sample/N	X	X	X		X		X	X	X	X
NHFLA-MW1OB-B-AUG2020	SN7007-2	Solid	Field Sample/N	X	X	X		X		X	X	X	
NHFLA-MW1OB-C-AUG2020	SN7007-3	Solid	Field Sample/N	X	X	X		X		X	X	X	
NHFLA-EB2-AUG2020	SN7007-4	Water	Equipment Blank/EB	X			X	X	X		X	X	
NHFLA-TB2-AUG2020	SN7007-5	Water	Trip Blank/TB								X		

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Katahdin Analytical Services, Westbrook, ME and were reported under sample delivery group (SDG) SN7007. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Extracted Internal Standard
- Lab Blank
- Lab Replicate RPD
- LCS Recovery
- MS Recovery
- MS RPD
- Prep Hold Time
- Surrogate
- Test Hold Time
- Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 106 results (17.01%) out of the 623 results (sample and field QC samples) reported are qualified based on review and 18 results (2.89%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

NOTE: Hydrazine results are reported as subcontracted data in this submittal but the electronic data is reported under report ID 11491-1 in FUDSChem. Please see 11491-1 DVR for summary.

Analytical Method	Data Reviewer Comment
BNASIM	No additional comments; see Checklist for detail.
LYDKHN	No additional comments; see Checklist for detail.
SW6010	No additional comments; see Checklist for detail.
SW6020	No additional comments; see Checklist for detail.
SW7196	No additional comments; see Checklist for detail.
SW7470	No additional comments; see Checklist for detail.
SW7471	No additional comments; see Checklist for detail.
SW8260	No additional comments; see Checklist for detail.
SW8270	No additional comments; see Checklist for detail.
SW9045	No additional comments; see Checklist for detail.

Jim Tomalia

January 24, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method BNASIM, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG284709-5 (LB)/ WG284709-5	Chrysene	0.04800	< 0.036	< 0.2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method BNASIM, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG284709-6 (BS)/ WG284709-6	2-Methylnaphthalene	14.90	39 - 114	10 - 114	percent	J/UJ	C	
WG284709-6 (BS)/ WG284709-6	Dibenz (a,h)anthracene	24.95	44 - 131	10 - 131	percent	J/UJ	C	
WG284709-6 (BS)/ WG284709-6	Benzo (g,h,i)perylene	29.05	44 - 128	10 - 128	percent	J/UJ	C	
WG284709-6 (BS)/ WG284709-6	Indeno(1,2,3-c,d)pyrene	29.30	48 - 130	10 - 130	percent	J/UJ	C	
WG284709-6 (BS)/ WG284709-6	Benzo (b)fluoranthene	45.40	53 - 126	10 - 126	percent	J/UJ	C	
WG284709-6 (BS)/ WG284709-6	Benzo (a)anthracene	55.00	59 - 120	10 - 120	percent	J/UJ	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB2-AUG2020	EB	2-Methylnaphthalene	0.190	0.0950 UL	0.0950 UJ		ug/l	C/I
NHFLA-EB2-AUG2020	EB	Benzo(a)anthracene	0.190	0.0950 UL	0.0950 UJ		ug/l	C/I
NHFLA-EB2-AUG2020	EB	Benzo(b)fluoranthene	0.190	0.0950 UL	0.0950 UJ		ug/l	C/I
NHFLA-EB2-AUG2020	EB	Benzo(g,h,i)perylene	0.190	0.0950 UL	0.0950 UJ		ug/l	C/I
NHFLA-EB2-AUG2020	EB	Dibenz(a,h)anthracene	0.190	0.0950 UL	0.0950 UJ		ug/l	C/I
NHFLA-EB2-AUG2020	EB	Indeno(1,2,3-c,d)pyrene	0.190	0.0950 UL	0.0950 UJ		ug/l	C/I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method BNASIM, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB2-AUG2020 (EB)/ SN7007-4	Pyrene-d10	51.40	53 - 166	10 - 166	percent	J/UJ	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB2-AUG2020	EB	2-Methylnaphthalene	0.190	0.0950 UL	0.0950 UJ		ug/l	C/I
NHFLA-EB2-AUG2020	EB	Acenaphthene	0.190	0.0950 U	0.0950 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Acenaphthylene	0.190	0.0950 U	0.0950 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Anthracene	0.190	0.0950 U	0.0950 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Benzo(a)anthracene	0.190	0.0950 UL	0.0950 UJ		ug/l	C/I
NHFLA-EB2-AUG2020	EB	Benzo(a)pyrene	0.190	0.0950 U	0.0950 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Benzo(b)fluoranthene	0.190	0.0950 UL	0.0950 UJ		ug/l	C/I
NHFLA-EB2-AUG2020	EB	Benzo(g,h,i)perylene	0.190	0.0950 UL	0.0950 UJ		ug/l	C/I
NHFLA-EB2-AUG2020	EB	Benzo(k)fluoranthene	0.190	0.0950 U	0.0950 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Chrysene	0.190	0.0950 U	0.0950 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Dibenz(a,h)anthracene	0.190	0.0950 UL	0.0950 UJ		ug/l	C/I
NHFLA-EB2-AUG2020	EB	Fluoranthene	0.190	0.0950 U	0.0950 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Fluorene	0.190	0.0950 U	0.0950 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Indeno(1,2,3-c,d)pyrene	0.190	0.0950 UL	0.0950 UJ		ug/l	C/I
NHFLA-EB2-AUG2020	EB	Naphthalene	0.190	0.0950 U	0.0950 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Phenanthrene	0.190	0.0950 U	0.0950 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Pyrene	0.190	0.0950 U	0.0950 UJ		ug/l	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method LYDKHN, Prep Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of extraction found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW1OB-A-AUG2020 (N)/ SN7007-1		7.140	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW1OB-B-AUG2020 (N)/ SN7007-2		7.130	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW1OB-C-AUG2020 (N)/ SN7007-3		7.120	< 0	< 0	days	J/X	H2	Prep Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6010, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBSNH26ICS1 (LB)/ PBSNH26ICS1	Antimony	0.08400	< 0.07	< 0.8	mg/kg	U/None	L	
PBSNH26ICS1 (LB)/ PBSNH26ICS1	Zinc	0.2100	< 0.17	< 2	mg/kg	U/None	L	
PBSNH26ICS1 (LB)/ PBSNH26ICS1	Magnesium	0.7400	< 0.68	< 10	mg/kg	U/None	L	
PBSNH26ICS1 (LB)/ PBSNH26ICS1	Sodium	3.200	< 1.5	< 100	mg/kg	U/None	L	
PBSNH26ICS1 (LB)/ PBSNH26ICS1	Potassium	6.700	< 2.9	< 100	mg/kg	U/None	L	
PBSNH26ICS1 (LB)/ PBSNH26ICS1	Chromium	0.1500	< 0.026	< 1	mg/kg	U/None	L	
PBSNH26ICS1 (LB)/ PBSNH26ICS1	Lead	1.010	< 0.087	< 0.5	mg/kg	U/None	L	
PBSNH26ICS1 (LB)/ PBSNH26ICS1	Aluminum	2.400	< 0.71	< 30	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Cadmium	0.008200	< 0.0079	< 0.5	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Arsenic	0.07500	< 0.068	< 0.8	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Antimony	0.1200	< 0.07	< 0.8	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Magnesium	0.8500	< 0.68	< 10	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Iron	1.900	< 1.4	< 10	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Potassium	13.00	< 2.9	< 100	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Sodium	6.400	< 1.5	< 100	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Chromium	0.08200	< 0.026	< 1	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Aluminum	3.000	< 0.71	< 30	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Calcium	3.600	< 1.8	< 10	mg/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW1OB-A-AUG2020	N	Antimony	0.860	0.220 J	0.540 U		mg/kg	L
NHFLA-MW1OB-A-AUG2020	N	Sodium	220	173 J	220 U		mg/kg	L
NHFLA-MW1OB-B-AUG2020	N	Antimony	0.800	0.170 J	0.500 U		mg/kg	L

Qualified Results associated with the Lab Blank for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW1OB-C-AUG2020	N	Antimony	0.900	0.280 J	0.560 U		mg/kg	L
NHFLA-MW1OB-C-AUG2020	N	Cadmium	0.560	0.437 J	0.560 U		mg/kg	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB2-AUG2020 (EB)/ SN7007-4	Beryllium	0.03700	< 0.034	< 1	ug/l	U/None	V	
NHFLA-EB2-AUG2020 (EB)/ SN7007-4	Cadmium	0.06900	< 0.029	< 1	ug/l	U/None	V	
NHFLA-EB2-AUG2020 (EB)/ SN7007-4	Antimony	0.1200	< 0.055	< 1	ug/l	U/None	V	
NHFLA-EB2-AUG2020 (EB)/ SN7007-4	Cobalt	0.1200	< 0.06	< 1	ug/l	U/None	V	
NHFLA-EB2-AUG2020 (EB)/ SN7007-4	Lead	0.2000	< 0.075	< 1	ug/l	U/None	V	
NHFLA-EB2-AUG2020 (EB)/ SN7007-4	Selenium	0.2100	< 0.19	< 5	ug/l	U/None	V	
NHFLA-EB2-AUG2020 (EB)/ SN7007-4	Chromium	0.3200	< 0.22	< 5	ug/l	U/None	V	
NHFLA-EB2-AUG2020 (EB)/ SN7007-4	Vanadium	0.6800	< 0.5	< 5	ug/l	U/None	V	
NHFLA-EB2-AUG2020 (EB)/ SN7007-4	Manganese	0.7800	< 0.35	< 2	ug/l	U/None	V	
NHFLA-EB2-AUG2020 (EB)/ SN7007-4	Barium	1.300	< 0.27	< 2	ug/l	U/None	V	
NHFLA-EB2-AUG2020 (EB)/ SN7007-4	Copper	1.940	< 0.19	< 3	ug/l	U/None	V	
NHFLA-EB2-AUG2020 (EB)/ SN7007-4	Aluminum	13.00	< 4.4	< 100	ug/l	U/None	V	
NHFLA-EB2-AUG2020 (EB)/ SN7007-4	Sodium	170.0	< 19	< 1000	ug/l	U/None	V	
NHFLA-EB2-AUG2020 (EB)/ SN7007-4	Magnesium	19.00	< 8	< 100	ug/l	U/None	V	
NHFLA-EB2-AUG2020 (EB)/ SN7007-4	Iron	31.00	< 13	< 100	ug/l	U/None	V	
NHFLA-EB2-AUG2020 (EB)/ SN7007-4	Calcium	40.00	< 21	< 100	ug/l	U/None	V	
NHFLA-EB2-AUG2020 (EB)/ SN7007-4	Thallium	0.06400	< 0.06	< 1	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNH27IMW1 (LB)/ PBWNH27IMW1	Lead	0.09200	< 0.074	< 1	ug/l	U/None	L	
PBWNH27IMW1 (LB)/ PBWNH27IMW1	Chromium	0.5200	< 0.22	< 5	ug/l	U/None	L	
PBWNH27IMW1 (LB)/ PBWNH27IMW1	Copper	1.300	< 0.18	< 3	ug/l	U/None	L	
PBWNH27IMW1 (LB)/ PBWNH27IMW1	Manganese	1.400	< 0.35	< 2	ug/l	U/None	L	
PBWNH27IMW1 (LB)/ PBWNH27IMW1	Magnesium	16.00	< 7.8	< 100	ug/l	U/None	L	
PBWNH27IMW1 (LB)/ PBWNH27IMW1	Aluminum	17.00	< 4.4	< 100	ug/l	U/None	L	
PBWNH27IMW1 (LB)/ PBWNH27IMW1	Calcium	28.00	< 20	< 100	ug/l	U/None	L	
PBWNH27IMW1 (LB)/ PBWNH27IMW1	Sodium	72.00	< 19	< 1000	ug/l	U/None	L	
PBWNH27IMW1 (LB)/ PBWNH27IMW1	Iron	88.00	< 13	< 100	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB2-AUG2020	EB	Aluminum	100	13.0 J	40.0 U		ug/l	L
NHFLA-EB2-AUG2020	EB	Calcium	100	40.0 J	80.0 U		ug/l	L
NHFLA-EB2-AUG2020	EB	Chromium	5.00	0.320 J	4.00 U		ug/l	L
NHFLA-EB2-AUG2020	EB	Copper	3.00	1.94 J	2.00 U		ug/l	L
NHFLA-EB2-AUG2020	EB	Iron	100	31.0 J	60.0 U		ug/l	L
NHFLA-EB2-AUG2020	EB	Lead	1.00	0.200 J	0.500 U		ug/l	L
NHFLA-EB2-AUG2020	EB	Magnesium	100	19.0 J	80.0 U		ug/l	L
NHFLA-EB2-AUG2020	EB	Manganese	2.00	0.780 JB	1.00 U		ug/l	L
NHFLA-EB2-AUG2020	EB	Sodium	1000	170 J	400 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB2-AUG2020 (EB)/ SN7007-4	Chromium, Hexavalent	0.002700	< 0.00076	< 0.025	mg/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7196, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG284706-1 (LB)/ WG284706-1	Chromium, Hexavalent	0.001500	< 0.00076	< 0.025	mg/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB2-AUG2020	EB	Chromium, Hexavalent	0.0250	0.00270 J	0.0125 U		mg/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW1OB-A-AUG2020 (N)/ SN7007-1		13.27	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-MW1OB-B-AUG2020 (N)/ SN7007-2		13.25	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-MW1OB-C-AUG2020 (N)/ SN7007-3		13.22	< 1	< 2	days	J/X	H1	Test Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB2-AUG2020 (EB)/ SN7007-4	Acetone	4.100	< 2.2	< 5	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG284832-2 (LB)/ WG284832-2	Bromomethane	1.100	< 0.49	< 2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG284832-1 (BS)/ WG284832-1	Methylene chloride	125.0	74 - 124	10 - 124	percent	J/None	C	
WG284832-1 (BS)/ WG284832-1	Methyl tert-butyl ether (MTBE)	132.8	71 - 124	10 - 124	percent	J/None	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG284835-1 (BS)/ WG284835-1	Methylene chloride	64.20	70 - 128	10 - 128	percent	J/UJ	C	
WG284835-1 (BS)/ WG284835-1	Methyl tert-butyl ether (MTBE)	71.60	73 - 125	10 - 125	percent	J/UJ	C	
WG284835-1 (BS)/ WG284835-1	trans-1,2-Dichloroethene	72.20	74 - 125	10 - 125	percent	J/UJ	C	
WG284835-1 (BS)/ WG284835-1	Chloroform	75.60	78 - 123	10 - 123	percent	J/UJ	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW1OB-A-AUG2020	N	Chloroform	4.80	2.40 UL	2.40 UJ		ug/kg	C
NHFLA-MW1OB-A-AUG2020	N	Methyl tert-butyl ether (MTBE)	4.80	2.40 UL	2.40 UJ		ug/kg	C
NHFLA-MW1OB-A-AUG2020	N	Methylene chloride	24.0	12.0 UL	12.0 UJ		ug/kg	C
NHFLA-MW1OB-A-AUG2020	N	trans-1,2-Dichloroethene	4.80	2.40 UL	2.40 UJ		ug/kg	C
NHFLA-MW1OB-B-AUG2020	N	Chloroform	5.00	2.50 UL	2.50 UJ		ug/kg	C
NHFLA-MW1OB-B-AUG2020	N	Methyl tert-butyl ether (MTBE)	5.00	2.50 UL	2.50 UJ		ug/kg	C
NHFLA-MW1OB-B-AUG2020	N	Methylene chloride	25.0	12.0 UL	12.0 UJ		ug/kg	C
NHFLA-MW1OB-B-AUG2020	N	trans-1,2-Dichloroethene	5.00	2.50 UL	2.50 UJ		ug/kg	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB2-AUG2020 (EB)/ SN7007-4	1,2-Dichloroethane-d4	120.0	81 - 118	10 - 118	percent	J/None	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB2-AUG2020	EB	Acetone	5.00	4.10 J	4.10 J	+	ug/l	I/TR

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG284708-2 (BS)/ WG284708-2	Benzaldehyde	370.0	10 - 189	10 - 189	percent	J/None	C	
WG284708-2 (BS)/ WG284708-2	Caprolactam	5.100	10 - 86	10 - 86	percent	J/X	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB2-AUG2020	EB	Caprolactam	9.50	7.10 UL	7.10 X		ug/l	C/I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG284713-2 (BS)/ WG284713-2	4-Chloroaniline	0.000	17 - 106	10 - 106	percent	J/X	C	
WG284713-2 (BS)/ WG284713-2	Atrazine	13.83	47 - 127	10 - 127	percent	J/UJ	C	
WG284713-2 (BS)/ WG284713-2	Bis(2-ethylhexyl)phthalate	170.7	51 - 133	10 - 133	percent	J/None	C	
WG284713-2 (BS)/ WG284713-2	3-Nitroaniline	30.18	33 - 119	10 - 119	percent	J/UJ	C	
WG284713-2 (BS)/ WG284713-2	Caprolactam	30.48	46 - 117	10 - 117	percent	J/UJ	C	
WG284713-2 (BS)/ WG284713-2	Benzaldehyde	318.0	10 - 134	10 - 134	percent	J/None	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW1OB-A-AUG2020	N	3-Nitroaniline	890	670 UL	670 UJ		ug/kg	C
NHFLA-MW1OB-A-AUG2020	N	4-Chloroaniline	360	270 UL	270 X		ug/kg	C
NHFLA-MW1OB-A-AUG2020	N	Atrazine	360	270 UL	270 UJ		ug/kg	C
NHFLA-MW1OB-A-AUG2020	N	Bis(2-ethylhexyl)phthalate	720	5800 L	5800 J	+	ug/kg	C
NHFLA-MW1OB-A-AUG2020	N	Caprolactam	360	270 UL	270 UJ		ug/kg	C
NHFLA-MW1OB-B-AUG2020	N	3-Nitroaniline	910	680 UL	680 UJ		ug/kg	C
NHFLA-MW1OB-B-AUG2020	N	4-Chloroaniline	370	280 UL	280 X		ug/kg	C
NHFLA-MW1OB-B-AUG2020	N	Atrazine	370	280 UL	280 UJ		ug/kg	C
NHFLA-MW1OB-B-AUG2020	N	Bis(2-ethylhexyl)phthalate	370	3700 L	3700 J	+	ug/kg	C
NHFLA-MW1OB-B-AUG2020	N	Caprolactam	370	280 UL	280 UJ		ug/kg	C
NHFLA-MW1OB-C-AUG2020	N	3-Nitroaniline	890	670 UL	670 UJ		ug/kg	C
NHFLA-MW1OB-C-AUG2020	N	4-Chloroaniline	360	270 UL	270 X		ug/kg	C
NHFLA-MW1OB-C-AUG2020	N	Atrazine	360	140 JL	140 J	-	ug/kg	C/TR
NHFLA-MW1OB-C-AUG2020	N	Bis(2-ethylhexyl)phthalate	720	5200 L	5200 J	+	ug/kg	C

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW1OB-C-AUG2020	N	Caprolactam	360	270 UL	270 UJ		ug/kg	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB2-AUG2020 (EB)/ SN7007-4	2-Fluorophenol	12.10	19 - 119	10 - 119	percent	J/UJ	I	
NHFLA-EB2-AUG2020 (EB)/ SN7007-4	2,4,6-Tribromophenol	24.40	43 - 140	10 - 140	percent	J/UJ	I	
NHFLA-EB2-AUG2020 (EB)/ SN7007-4	Terphenyl-d14	30.20	50 - 134	10 - 134	percent	J/UJ	I	
NHFLA-EB2-AUG2020 (EB)/ SN7007-4	Phenol-d6	7.840	10 - 90	10 - 90	percent	J/X	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB2-AUG2020	EB	1,2,4,5-Tetrachlorobenzene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	1,4-Dioxane (p-Dioxane)	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	2,2'-Oxybis(1-chloropropane)	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	2,4,5-Trichlorophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB2-AUG2020	EB	2,4,6-Trichlorophenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB2-AUG2020	EB	2,4-Dichlorophenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB2-AUG2020	EB	2,4-Dimethylphenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB2-AUG2020	EB	2,4-Dinitrophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB2-AUG2020	EB	2,4-Dinitrotoluene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	2,6-Dinitrotoluene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	2-Chloronaphthalene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	2-Chlorophenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB2-AUG2020	EB	2-Methylphenol (o-Cresol)	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB2-AUG2020	EB	2-Nitroaniline	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	2-Nitrophenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB2-AUG2020	EB	3,3'-Dichlorobenzidine	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	3-Nitroaniline	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB2-AUG2020	EB	4-Bromophenyl phenyl ether	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	4-Chloro-3-methylphenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB2-AUG2020	EB	4-Chloroaniline	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	4-Chlorophenyl phenyl ether	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	4-Nitroaniline	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	4-Nitrophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB2-AUG2020	EB	Acetophenone	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Atrazine	9.50	7.10 U	7.10 UJ		ug/l	I

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB2-AUG2020	EB	Benzaldehyde	9.50	7.10 UL	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Benzyl butyl phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Biphenyl (Diphenyl)	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Bis(2-chloroethoxy)methane	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Bis(2-ethylhexyl)phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Caprolactam	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-EB2-AUG2020	EB	Carbazole	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Cresols, m- & p-	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB2-AUG2020	EB	Dibenzofuran	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Diethyl phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Dimethyl phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Di-n-butyl phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	di-n-Octyl phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Hexachlorobenzene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Hexachlorobutadiene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Hexachlorocyclopentadiene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Hexachloroethane	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Isophorone	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Nitrobenzene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	N-Nitrosodi-n-propylamine	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	N-Nitrosodiphenylamine	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Pentachlorophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB2-AUG2020	EB	Phenol	9.50	7.10 U	7.10 X		ug/l	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Table of All Qualified Results

Test Method: BNASIM	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB2-AUG2020	EB	Acenaphthene	0.190	0.0950 U	0.0950 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Acenaphthylene	0.190	0.0950 U	0.0950 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Anthracene	0.190	0.0950 U	0.0950 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Benzo(a)anthracene	0.190	0.0950 UL	0.0950 UJ		ug/l	C/I
NHFLA-EB2-AUG2020	EB	Benzo(a)pyrene	0.190	0.0950 U	0.0950 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Benzo(k)fluoranthene	0.190	0.0950 U	0.0950 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Chrysene	0.190	0.0950 U	0.0950 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Fluoranthene	0.190	0.0950 U	0.0950 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Fluorene	0.190	0.0950 U	0.0950 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Naphthalene	0.190	0.0950 U	0.0950 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Phenanthrene	0.190	0.0950 U	0.0950 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Pyrene	0.190	0.0950 U	0.0950 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	2-Methylnaphthalene	0.190	0.0950 UL	0.0950 UJ		ug/l	C/I
NHFLA-EB2-AUG2020	EB	Benzo(b)fluoranthene	0.190	0.0950 UL	0.0950 UJ		ug/l	C/I
NHFLA-EB2-AUG2020	EB	Benzo(g,h,i)perylene	0.190	0.0950 UL	0.0950 UJ		ug/l	C/I
NHFLA-EB2-AUG2020	EB	Dibenz(a,h)anthracene	0.190	0.0950 UL	0.0950 UJ		ug/l	C/I
NHFLA-EB2-AUG2020	EB	Indeno(1,2,3-c,d)pyrene	0.190	0.0950 UL	0.0950 UJ		ug/l	C/I

Test Method: SW6010	Extraction Method: SW3050							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW1OB-A-AUG2020	N	Antimony	0.860	0.220 J	0.540 U		mg/kg	L
NHFLA-MW1OB-A-AUG2020	N	Sodium	220	173 J	220 U		mg/kg	L
NHFLA-MW1OB-B-AUG2020	N	Antimony	0.800	0.170 J	0.500 U		mg/kg	L
NHFLA-MW1OB-C-AUG2020	N	Antimony	0.900	0.280 J	0.560 U		mg/kg	L
NHFLA-MW1OB-C-AUG2020	N	Cadmium	0.560	0.437 J	0.560 U		mg/kg	L

Test Method: SW6020	Extraction Method: SW3010							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB2-AUG2020	EB	Aluminum	100	13.0 J	40.0 U		ug/l	L
NHFLA-EB2-AUG2020	EB	Calcium	100	40.0 J	80.0 U		ug/l	L
NHFLA-EB2-AUG2020	EB	Chromium	5.00	0.320 J	4.00 U		ug/l	L
NHFLA-EB2-AUG2020	EB	Copper	3.00	1.94 J	2.00 U		ug/l	L
NHFLA-EB2-AUG2020	EB	Iron	100	31.0 J	60.0 U		ug/l	L
NHFLA-EB2-AUG2020	EB	Lead	1.00	0.200 J	0.500 U		ug/l	L
NHFLA-EB2-AUG2020	EB	Magnesium	100	19.0 J	80.0 U		ug/l	L
NHFLA-EB2-AUG2020	EB	Manganese	2.00	0.780 JB	1.00 U		ug/l	L
NHFLA-EB2-AUG2020	EB	Sodium	1000	170 J	400 U		ug/l	L

Table of All Qualified Results

Test Method: SW7196	Extraction Method: NONE							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB2-AUG2020	EB	Chromium, Hexavalent	0.0250	0.00270 J	0.0125 U		mg/l	L

Test Method: SW8260	Extraction Method: SW5030							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB2-AUG2020	EB	Acetone	5.00	4.10 J	4.10 J	+	ug/l	I/TR

Test Method: SW8260	Extraction Method: SW5035							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW1OB-A-AUG2020	N	Chloroform	4.80	2.40 UL	2.40 UJ		ug/kg	C
NHFLA-MW1OB-A-AUG2020	N	Methyl tert-butyl ether (MTBE)	4.80	2.40 UL	2.40 UJ		ug/kg	C
NHFLA-MW1OB-A-AUG2020	N	Methylene chloride	24.0	12.0 UL	12.0 UJ		ug/kg	C
NHFLA-MW1OB-A-AUG2020	N	trans-1,2-Dichloroethene	4.80	2.40 UL	2.40 UJ		ug/kg	C
NHFLA-MW1OB-B-AUG2020	N	Chloroform	5.00	2.50 UL	2.50 UJ		ug/kg	C
NHFLA-MW1OB-B-AUG2020	N	Methyl tert-butyl ether (MTBE)	5.00	2.50 UL	2.50 UJ		ug/kg	C
NHFLA-MW1OB-B-AUG2020	N	Methylene chloride	25.0	12.0 UL	12.0 UJ		ug/kg	C
NHFLA-MW1OB-B-AUG2020	N	trans-1,2-Dichloroethene	5.00	2.50 UL	2.50 UJ		ug/kg	C

Test Method: SW8270	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB2-AUG2020	EB	1,2,4,5-Tetrachlorobenzene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	1,4-Dioxane (p-Dioxane)	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	2,2'-Oxybis(1-chloropropane)	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	2,4,5-Trichlorophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB2-AUG2020	EB	2,4,6-Trichlorophenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB2-AUG2020	EB	2,4-Dichlorophenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB2-AUG2020	EB	2,4-Dimethylphenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB2-AUG2020	EB	2,4-Dinitrophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB2-AUG2020	EB	2,4-Dinitrotoluene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	2,6-Dinitrotoluene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	2-Chloronaphthalene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	2-Chlorophenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB2-AUG2020	EB	2-Methylphenol (o-Cresol)	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB2-AUG2020	EB	2-Nitroaniline	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	2-Nitrophenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB2-AUG2020	EB	3,3'-Dichlorobenzidine	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	3-Nitroaniline	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB2-AUG2020	EB	4-Bromophenyl phenyl ether	9.50	7.10 U	7.10 UJ		ug/l	I

Table of All Qualified Results

Test Method: SW8270	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB2-AUG2020	EB	4-Chloro-3-methylphenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB2-AUG2020	EB	4-Chloroaniline	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	4-Chlorophenyl phenyl ether	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	4-Nitroaniline	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	4-Nitrophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB2-AUG2020	EB	Acetophenone	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Atrazine	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Benzaldehyde	9.50	7.10 UL	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Benzyl butyl phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Biphenyl (Diphenyl)	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Bis(2-chloroethoxy)methane	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Bis(2-ethylhexyl)phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Caprolactam	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-EB2-AUG2020	EB	Carbazole	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Cresols, m- & p-	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB2-AUG2020	EB	Dibenzofuran	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Diethyl phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Dimethyl phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Di-n-butyl phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	di-n-Octyl phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Hexachlorobenzene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Hexachlorobutadiene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Hexachlorocyclopentadiene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Hexachloroethane	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Isophorone	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Nitrobenzene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	N-Nitrosodi-n-propylamine	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	N-Nitrosodiphenylamine	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB2-AUG2020	EB	Pentachlorophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB2-AUG2020	EB	Phenol	9.50	7.10 U	7.10 X		ug/l	I

Test Method: SW8270	Extraction Method: SW3550							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW1OB-A-AUG2020	N	3-Nitroaniline	890	670 UL	670 UJ		ug/kg	C
NHFLA-MW1OB-A-AUG2020	N	4-Chloroaniline	360	270 UL	270 X		ug/kg	C
NHFLA-MW1OB-A-AUG2020	N	Atrazine	360	270 UL	270 UJ		ug/kg	C
NHFLA-MW1OB-A-AUG2020	N	Bis(2-ethylhexyl)phthalate	720	5800 L	5800 J	+	ug/kg	C

Table of All Qualified Results

Test Method: SW8270	Extraction Method: SW3550							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW1OB-A-AUG2020	N	Caprolactam	360	270 UL	270 UJ		ug/kg	C
NHFLA-MW1OB-B-AUG2020	N	3-Nitroaniline	910	680 UL	680 UJ		ug/kg	C
NHFLA-MW1OB-B-AUG2020	N	4-Chloroaniline	370	280 UL	280 X		ug/kg	C
NHFLA-MW1OB-B-AUG2020	N	Atrazine	370	280 UL	280 UJ		ug/kg	C
NHFLA-MW1OB-B-AUG2020	N	Bis(2-ethylhexyl)phthalate	370	3700 L	3700 J	+	ug/kg	C
NHFLA-MW1OB-B-AUG2020	N	Caprolactam	370	280 UL	280 UJ		ug/kg	C
NHFLA-MW1OB-C-AUG2020	N	3-Nitroaniline	890	670 UL	670 UJ		ug/kg	C
NHFLA-MW1OB-C-AUG2020	N	4-Chloroaniline	360	270 UL	270 X		ug/kg	C
NHFLA-MW1OB-C-AUG2020	N	Atrazine	360	140 JL	140 J	-	ug/kg	C/TR
NHFLA-MW1OB-C-AUG2020	N	Bis(2-ethylhexyl)phthalate	720	5200 L	5200 J	+	ug/kg	C
NHFLA-MW1OB-C-AUG2020	N	Caprolactam	360	270 UL	270 UJ		ug/kg	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method LYDKHN

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW1OB-A-AUG2020	N	Total Organic Carbon	580	16000	16000 J	16000	
NHFLA-MW1OB-B-AUG2020	N	Total Organic Carbon	610	25000	25000 J	25000	
NHFLA-MW1OB-C-AUG2020	N	Total Organic Carbon	930	25000	25000 J	25000	

Modified Qualifiers for test method SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW1OB-A-AUG2020	N	Chromium, Hexavalent	0.550	0.800	0.800 J	0.800	
NHFLA-MW1OB-B-AUG2020	N	Chromium, Hexavalent	0.550	0.170 J	0.170 J	0.170 J	TR
NHFLA-MW1OB-C-AUG2020	N	Chromium, Hexavalent	0.570	0.340 U	0.340 X	0.340 U	

Modified Qualifiers for test method SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB2-AUG2020	EB	1,2,4,5-Tetrachlorobenzene	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB2-AUG2020	EB	1,4-Dioxane (p-Dioxane)	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB2-AUG2020	EB	2,2'-Oxybis(1-chloropropane)	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB2-AUG2020	EB	2,4-Dinitrotoluene	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB2-AUG2020	EB	2,6-Dinitrotoluene	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB2-AUG2020	EB	2-Chloronaphthalene	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB2-AUG2020	EB	2-Nitroaniline	24.0	18.0 U	18.0 X	18.0 UJ	I
NHFLA-EB2-AUG2020	EB	3,3'-Dichlorobenzidine	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB2-AUG2020	EB	3-Nitroaniline	24.0	18.0 U	18.0 X	18.0 UJ	I
NHFLA-EB2-AUG2020	EB	4-Bromophenyl phenyl ether	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB2-AUG2020	EB	4-Chloroaniline	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB2-AUG2020	EB	4-Chlorophenyl phenyl ether	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB2-AUG2020	EB	4-Nitroaniline	24.0	18.0 U	18.0 X	18.0 UJ	I
NHFLA-EB2-AUG2020	EB	Acetophenone	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB2-AUG2020	EB	Atrazine	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB2-AUG2020	EB	Benzaldehyde	9.50	7.10 UL	7.10 X	7.10 UJ	I
NHFLA-EB2-AUG2020	EB	Benzyl butyl phthalate	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB2-AUG2020	EB	Biphenyl (Diphenyl)	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB2-AUG2020	EB	Bis(2-chloroethoxy)methane	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB2-AUG2020	EB	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB2-AUG2020	EB	Bis(2-ethylhexyl)phthalate	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB2-AUG2020	EB	Carbazole	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB2-AUG2020	EB	Dibenzofuran	9.50	7.10 U	7.10 X	7.10 UJ	I

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB2-AUG2020	EB	Diethyl phthalate	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB2-AUG2020	EB	Dimethyl phthalate	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB2-AUG2020	EB	Di-n-butyl phthalate	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB2-AUG2020	EB	di-n-Octyl phthalate	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB2-AUG2020	EB	Hexachlorobenzene	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB2-AUG2020	EB	Hexachlorobutadiene	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB2-AUG2020	EB	Hexachlorocyclopentadiene	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB2-AUG2020	EB	Hexachloroethane	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB2-AUG2020	EB	Isophorone	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB2-AUG2020	EB	Nitrobenzene	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB2-AUG2020	EB	N-Nitrosodi-n-propylamine	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB2-AUG2020	EB	N-Nitrosodiphenylamine	9.50	7.10 U	7.10 X	7.10 UJ	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Rejected Results

Test Method: SW8270 Extraction Method: SW3510 Leach Method: NONE

FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-EB2-AUG2020	SN7007-4	W	EB	2,4,5-Trichlorophenol	24.0	18.0 U	18.0 X	ug/l	I
NHFLA-EB2-AUG2020	SN7007-4	W	EB	2,4,6-Trichlorophenol	9.50	7.10 U	7.10 X	ug/l	I
NHFLA-EB2-AUG2020	SN7007-4	W	EB	2,4-Dichlorophenol	9.50	7.10 U	7.10 X	ug/l	I
NHFLA-EB2-AUG2020	SN7007-4	W	EB	2,4-Dimethylphenol	9.50	7.10 U	7.10 X	ug/l	I
NHFLA-EB2-AUG2020	SN7007-4	W	EB	2,4-Dinitrophenol	24.0	18.0 U	18.0 X	ug/l	I
NHFLA-EB2-AUG2020	SN7007-4	W	EB	2-Chlorophenol	9.50	7.10 U	7.10 X	ug/l	I
NHFLA-EB2-AUG2020	SN7007-4	W	EB	2-Methylphenol (o-Cresol)	9.50	7.10 U	7.10 X	ug/l	I
NHFLA-EB2-AUG2020	SN7007-4	W	EB	2-Nitrophenol	9.50	7.10 U	7.10 X	ug/l	I
NHFLA-EB2-AUG2020	SN7007-4	W	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 U	18.0 X	ug/l	I
NHFLA-EB2-AUG2020	SN7007-4	W	EB	4-Chloro-3-methylphenol	9.50	7.10 U	7.10 X	ug/l	I
NHFLA-EB2-AUG2020	SN7007-4	W	EB	4-Nitrophenol	24.0	18.0 U	18.0 X	ug/l	I
NHFLA-EB2-AUG2020	SN7007-4	W	EB	Caprolactam	9.50	7.10 UL	7.10 X	ug/l	C/I
NHFLA-EB2-AUG2020	SN7007-4	W	EB	Cresols, m- & p-	9.50	7.10 U	7.10 X	ug/l	I
NHFLA-EB2-AUG2020	SN7007-4	W	EB	Pentachlorophenol	24.0	18.0 U	18.0 X	ug/l	I
NHFLA-EB2-AUG2020	SN7007-4	W	EB	Phenol	9.50	7.10 U	7.10 X	ug/l	I

Test Method: SW8270 Extraction Method: SW3550 Leach Method: NONE

FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-MW1OB-A-AUG2020	SN7007-1	S	N	4-Chloroaniline	360	270 UL	270 X	ug/kg	C
NHFLA-MW1OB-B-AUG2020	SN7007-2	S	N	4-Chloroaniline	370	280 UL	280 X	ug/kg	C
NHFLA-MW1OB-C-AUG2020	SN7007-3	S	N	4-Chloroaniline	360	270 UL	270 X	ug/kg	C

Automated Data Review Detail Report for SN7007
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
BNASIM/SW3550/NONE	1	2
SW6010/SW3050/NONE	3	20
SW7196/SW3060/NONE	3	3
SW8270/SW3550/NONE	3	90

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
BNASIM/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	6	Benzo(a)pyrene	1000	21.0	65.0	130	36.666666	ug/kg
BNASIM/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	6	Dibenz(a,h)anthracene	150	12.0	65.0	130	36.666666	ug/kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-MW1OB-A-AUG2020	N	1	Antimony	0.540 U	0.0760	0.540	0.860	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW1OB-A-AUG2020	N	1	Arsenic	7.20	0.0740	0.540	0.860	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW1OB-A-AUG2020	N	1	Cadmium	0.733	0.00860	0.320	0.540	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW1OB-A-AUG2020	N	1	Cobalt	9.26	0.0310	0.430	1.10	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW1OB-A-AUG2020	N	1	Selenium	0.650 J	0.180	0.760	1.10	0.173333	mg/Kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-MW1OB-A-AUG2020	N	2	Silver	0.894 J	0.0580	0.860	2.20	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW1OB-A-AUG2020	N	2	Thallium	0.360 J	0.190	1.10	3.20	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW1OB-B-AUG2020	N	1	Antimony	0.500 U	0.0700	0.500	0.800	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW1OB-B-AUG2020	N	1	Arsenic	6.65	0.0680	0.500	0.800	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW1OB-B-AUG2020	N	1	Cadmium	0.193 J	0.00790	0.300	0.500	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW1OB-B-AUG2020	N	1	Cobalt	5.90	0.0290	0.400	1.00	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW1OB-B-AUG2020	N	1	Selenium	0.510 J	0.170	0.700	1.00	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW1OB-B-AUG2020	N	2	Silver	0.704 J	0.0540	0.800	2.00	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW1OB-B-AUG2020	N	2	Thallium	1.00 U	0.170	1.00	3.00	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW1OB-C-AUG2020	N	1	Antimony	0.560 U	0.0780	0.560	0.900	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW1OB-C-AUG2020	N	1	Arsenic	8.04	0.0760	0.560	0.900	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW1OB-C-AUG2020	N	1	Cadmium	0.560 U	0.00890	0.560	0.560	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW1OB-C-AUG2020	N	1	Cobalt	8.63	0.0320	0.450	1.10	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW1OB-C-AUG2020	N	1	Selenium	1.00 J	0.190	0.780	1.10	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW1OB-C-AUG2020	N	1	Thallium	0.560 U	0.0960	0.560	1.70	0.016666	mg/Kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7196/SW3060/NONE	NHFLA-MW1OB-A-AUG2020	N	1.2	Chromium, Hexavalent	0.800	0.160	0.330	0.550	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-MW1OB-B-AUG2020	N	1.2	Chromium, Hexavalent	0.170 J	0.160	0.330	0.550	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-MW1OB-C-AUG2020	N	1.2	Chromium, Hexavalent	0.340 U	0.170	0.340	0.570	0.4	mg/kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW1OB-A-AUG2020	N	1	1,2,4,5-Tetrachlorobenzene	270 U	150	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-A-AUG2020	N	1	2,4-Dichlorophenol	270 U	160	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-A-AUG2020	N	1	2,4-Dimethylphenol	270 U	180	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-A-AUG2020	N	1	2,4-Dinitrophenol	670 U	410	670	890	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-A-AUG2020	N	1	2,6-Dinitrotoluene	270 U	86.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-A-AUG2020	N	1	2-Chlorophenol	270 U	180	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-A-AUG2020	N	1	2-Methylphenol (o-Cresol)	270 U	220	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-A-AUG2020	N	1	2-Nitroaniline	670 U	81.0	670	890	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-A-AUG2020	N	1	3,3'-Dichlorobenzidine	270 U	120	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-A-AUG2020	N	1	4,6-Dinitro-2-methylphenol	670 U	360	670	890	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-A-AUG2020	N	1	4-Chloroaniline	270 X	130	270	360	333.333333	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW1OB-A-AUG2020	N	1	Atrazine	270 UJ	99.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-A-AUG2020	N	1	Benzyl butyl phthalate	270 U	100	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-A-AUG2020	N	1	Biphenyl (Diphenyl)	270 U	79.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-A-AUG2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	270 U	88.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-A-AUG2020	N	2	bis(2-Ethylhexyl) phthalate	5800 J	210	540	720	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-A-AUG2020	N	1	Carbazole	270 U	120	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-A-AUG2020	N	1	Dibenzofuran	270 U	86.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-A-AUG2020	N	1	Diethyl phthalate	270 U	87.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-A-AUG2020	N	1	Dimethyl phthalate	270 U	85.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-A-AUG2020	N	1	Di-n-butyl phthalate	270 U	110	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-A-AUG2020	N	1	Di-n-octyl phthalate	270 U	230	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-A-AUG2020	N	1	Hexachlorobenzene	270 U	89.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-A-AUG2020	N	1	Hexachlorobutadiene	270 U	90.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-A-AUG2020	N	1	Hexachlorocyclopentadiene	270 U	89.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-A-AUG2020	N	1	Hexachloroethane	270 U	100	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-A-AUG2020	N	1	n-Nitrosodi-n-propylamine	270 U	90.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-A-AUG2020	N	1	n-Nitrosodiphenylamine	270 U	240	270	360	330	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW1OB-A-AUG2020	N	1	Pentachlorophenol	670 U	260	670	890	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-A-AUG2020	N	1	Phenol	270 U	170	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-B-AUG2020	N	1	1,2,4,5-Tetrachlorobenzene	280 U	150	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-B-AUG2020	N	1	2,4-Dichlorophenol	280 U	170	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-B-AUG2020	N	1	2,4-Dimethylphenol	280 U	180	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-B-AUG2020	N	1	2,4-Dinitrophenol	680 U	420	680	910	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-B-AUG2020	N	1	2,6-Dinitrotoluene	280 U	88.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-B-AUG2020	N	1	2-Chlorophenol	280 U	180	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-B-AUG2020	N	1	2-Methylphenol (o-Cresol)	280 U	220	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-B-AUG2020	N	1	2-Nitroaniline	680 U	84.0	680	910	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-B-AUG2020	N	1	3,3'-Dichlorobenzidine	280 U	130	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-B-AUG2020	N	1	4,6-Dinitro-2-methylphenol	680 U	380	680	910	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-B-AUG2020	N	1	4-Chloroaniline	280 X	130	280	370	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-B-AUG2020	N	1	Atrazine	280 UJ	100	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-B-AUG2020	N	1	Benzyl butyl phthalate	280 U	100	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-B-AUG2020	N	1	Biphenyl (Diphenyl)	280 U	81.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-B-AUG2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	280 U	90.0	280	370	330	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW1OB-B-AUG2020	N	1	bis(2-Ethylhexyl) phthalate	3700 J	110	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-B-AUG2020	N	1	Carbazole	280 U	120	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-B-AUG2020	N	1	Dibenzofuran	280 U	88.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-B-AUG2020	N	1	Diethyl phthalate	280 U	89.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-B-AUG2020	N	1	Dimethyl phthalate	280 U	87.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-B-AUG2020	N	1	Di-n-butyl phthalate	280 U	110	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-B-AUG2020	N	1	Di-n-octyl phthalate	280 U	240	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-B-AUG2020	N	1	Hexachlorobenzene	280 U	91.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-B-AUG2020	N	1	Hexachlorobutadiene	280 U	92.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-B-AUG2020	N	1	Hexachlorocyclopentadiene	280 U	91.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-B-AUG2020	N	1	Hexachloroethane	280 U	110	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-B-AUG2020	N	1	n-Nitrosodi-n-propylamine	280 U	92.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-B-AUG2020	N	1	n-Nitrosodiphenylamine	280 U	240	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-B-AUG2020	N	1	Pentachlorophenol	680 U	260	680	910	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-B-AUG2020	N	1	Phenol	280 U	170	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	1	1,2,4,5-Tetrachlorobenzene	270 U	150	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	1	2,4-Dichlorophenol	270 U	160	270	360	330	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	1	2,4-Dimethylphenol	270 U	180	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	1	2,4-Dinitrophenol	670 U	410	670	890	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	1	2,6-Dinitrotoluene	270 U	86.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	1	2-Chlorophenol	270 U	180	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	1	2-Methylphenol (o-Cresol)	270 U	220	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	1	2-Nitroaniline	670 U	81.0	670	890	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	1	3,3'-Dichlorobenzidine	270 U	120	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	1	4,6-Dinitro-2-methylphenol	670 U	360	670	890	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	1	4-Chloroaniline	270 X	130	270	360	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	1	Atrazine	140 J	99.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	1	Benzyl butyl phthalate	270 U	100	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	1	Biphenyl (Diphenyl)	270 U	79.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	270 U	88.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	2	bis(2-Ethylhexyl) phthalate	5200 J	210	540	720	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	1	Carbazole	250 J	120	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	1	Dibenzofuran	150 J	86.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	1	Diethyl phthalate	270 U	87.0	270	360	330	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	1	Dimethyl phthalate	270 U	85.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	1	Di-n-butyl phthalate	270 U	110	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	1	Di-n-octyl phthalate	270 U	230	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	1	Hexachlorobenzene	270 U	89.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	1	Hexachlorobutadiene	270 U	90.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	1	Hexachlorocyclopentadiene	270 U	89.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	1	Hexachloroethane	270 U	100	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	1	n-Nitrosodi-n-propylamine	270 U	90.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	1	n-Nitrosodiphenylamine	270 U	240	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	1	Pentachlorophenol	670 U	260	670	890	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW1OB-C-AUG2020	N	1	Phenol	270 U	170	270	360	330	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
C	LCS Recovery
H1	Test Hold Time
H2	Prep Hold Time
I	Surrogate recovery outside project limits.
L	Lab Blank
TR	Trace Level Detect
V	Equipment Blank

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: BNASIM (GC/MS-SIM Analysis by SW8270)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Method blank WG284709-5 had one of three surrogates outside of project criteria biased high. Qualifications were not applied based on this QC surrogate recovery outlier and electronic data was not available in FUDSChem database. Sample -004 had 1 of 3 surrogates biased low so all results were qualified as estimated with UJ flags and I reason codes.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG284709-5 chrysene detections below the LOQ did not result in qualification of field data.
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch WG584709-6 LCS recoveries were outliers biased low for 2-methynaphthalene benzo(a)anthracene, benzo(b)fluoranthene, indeno(123cd)pyrene, dibenzo(ah)anthracene and benzo(ghi)perylene. Client sample -004 results for these analytes were qualified as estimated with UJ flags and C reason codes.
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Calibration issues identified in case narrative not addressed as par of this stage 2A review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data rejected during the verification process?		•		

Review Questions

Method: LYDKHN (Lloyd Kahn Method for the Determination of Total Organic Carbon in Sediment, USEPA Region II Method)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			note: Qualifiers J/H2 assigned to all samples in database were removed since test hold time was not exceeded (7 days vs 14 days recommended in project QAPP).
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW6010 (Trace Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch PBSHN27ICS1 detections below the LOQ for aluminum, antimony, arsenic, cadmium, calcium, chromium, iron, magnesium, potassium, sodium and QC batch PBSNH26ICS1 for aluminum, antimony, chromium, lead (above LOQ), magnesium, potassium, sodium, zinc. Client samples -01, -02, -03 antimony results and sample -001 SODIUM and -003 CADMIUM results were qualified as non-detect at the LOD with U/L flags based on method blank detections.
Were target analytes in the field blank less than MDL?		•		Equipment blank detections were not used to qualify soil field sample detections.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW6020 (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch NH27IMW1 method blank had detections below the LOQ for aluminum, calcium, copper, chromium, iron, lead, magnesium, manganese, sodium. Client sample -004 results were qualified as non-detect at the LOD for all the metals detected in the prep blank and flagged U/L based on the prep blank detections.
Were target analytes in the field blank less than MDL?		•		Equipment blank detections were not used to qualify SOIL FIELD sample results.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7196 (Chromium, Hexavalent (Colorimetric))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			J/H1 flags were removed for soil samples since they were all PREPARED WITHIN 28 DAYS AND ANALYZED WITHIN 1 DAY OF PREPARATION.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG284706 method blank had a detection below the LOQ. Client sample -004 was qualified as non-detect at the LOD with a U flag and L reason code.
Were target analytes in the field blank less than MDL?			•	Equipment blank detections were not used to qualify soil field samples.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY.
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		Project QAPP required one soluble and one insoluble pre-digestion MS and post digestion MS. Only one MS available in lab report.
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?	•			
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7470 (Mercury in Liquid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7471 (Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW8260 (Volatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Surrogate recoveries were biased high for 1 of 4 surrogates in client sample -004. All detections for these samples were qualified as estimated with J/I/+ flags. Non-detects did not require qualification
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG2284832-2 method blank had a detection below the LOQ for bromomethane. Qualification was not required for field results based on this method blank detection.
Were target analytes in the field blank less than MDL?		•		Trip blank was non-detect but equipment blank had a detection for acetone that was not used to qualify field sample data.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch WG284835-1 recoveries were outliers biased low for methylene chloride, trans-1,2-dichloroethylene, MTBE and chloroform. Client samples -001 and -002 results for these analytes were qualified as estimated with UJ flags and C reason codes. QC batch WG284832-1 recoveries were biased high for methylene chloride and MTBE but qualification of field results was not required based on these high bias QC outliers since associated results were non-detect.
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Internal standard outliers not addressed as part of stage 2A data validation.
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data rejected during the verification process?		•		

Review Questions

Method: SW8270 (Semivolatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Sample -004 surrogate recoveries were outliers biased low and less than 10% for 1 of 3 acid fraction surrogates and biased low but above 10% for the remaining 2 of 3 acid fraction surrogates. Client sample -004 acid fraction results were qualified as unusable with X flags and I reason codes. 1 of 3 base-neutral fraction surrogates was also an outlier biased low so all base-neutral fraction results were qualified as estimated with UJ flags and I reason codes (UJ flags replaced X flags in database).
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch WG284708-2 (water) LCS recovery was biased low and less than 10% for CAPROLACTAM so this result was qualified as unusable in samples -004 with X flags and C reason code. QC LCS WG284708-2 (water) high bias for benzaldehyde did not require qualification for field sample results. QC batch WG284713-2 recoveries were biased high for benzaldehyde and bis-2-ethylhexylphthalate so client samples -001, -002, -003 bis-2-ethylhexylphthalate detections were qualified as estimated with J flags and C reason codes. Low recovery bias for caprolactam, 3-nitroaniline and atrazine resulted in qualification of these sample -001, -002, -003 results as estimated with J flags if detected and UJ flags if non-detect and C reason codes. 4-Chloroaniline recovery as biased low and less than 10% so sample -001, -002, -003 results for this analyte were qualified as unusable with X flags and C reason codes.
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Calibration issues with peak tailing were not addressed as part of this stage 2A review.
Were DoD QSM corrective actions followed if deviations were noted?		•		

Review Questions

Method: SW8270 (Semivolatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Were any data rejected during the verification process?	•			Sample -004 acid fraction analytes. Sample -004 caprolactam. Samples -001, -002, -003 4-chloroaniline.

Review Questions

Method: SW9045 (Soil pH)

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?			•	
Were target analytes in the method blank less than MDL?			•	
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	SN7037
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Katahdin Analytical Services, Westbrook, ME
Data Review Contractor:	CADENA
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	November 18, 2020 - re-submitted January 25, 2021 based on comments receivef from DoD chemist review.

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	BNASIM	LYDKHN	SW6010	SW6020	SW7196	SW7470	SW7471	SW8260	SW8270	SW9045
NHFLA-MW7OB-A-AUG2020	SN7037-3	Solid	Field Sample/N	X	X	X		X		X	X	X	X
NHFLA-MW7OB-B-AUG2020	SN7037-4	Solid	Field Sample/N	X	X	X		X		X	X	X	
NHFLA-MW7OB-C-AUG2020	SN7037-5	Solid	Field Sample/N	X	X	X		X		X	X	X	
NHFLA-MW9OB-A-AUG2020	SN7037-1	Solid	Field Sample/N	X	X	X		X		X	X	X	X
NHFLA-MW9OB-B-AUG2020	SN7037-2	Solid	Field Sample/N	X	X	X		X		X	X	X	
NHFLA-EB3-AUG2020	SN7037-6	Water	Equipment Blank/EB	X			X	X	X		X	X	
NHFLA-TB3-AUG2020	SN7037-7	Water	Trip Blank/TB								X		

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Katahdin Analytical Services, Westbrook, ME and were reported under sample delivery group (SDG) SN7037. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Extracted Internal Standard
- Lab Blank
- Lab Replicate RPD
- LCS Recovery
- MS Recovery
- Prep Hold Time
- Surrogate
- Test Hold Time
- Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 69 results (7.58%) out of the 910 results (sample and field QC samples) reported are qualified based on review and 14 results (1.54%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Hydrazine field sample results and QC are included in this SDG but electronic data is in separate SDG (11807 -1). Please reference validation report 11807-1 for data qualification summary.

Analytical Method	Data Reviewer Comment
A2340B	No additional comments; see Checklist for detail.
BNASIM	No additional comments; see Checklist for detail.
LYDKHN	No additional comments; see Checklist for detail.
M8315A	No additional comments; see Checklist for detail.
SW6010	No additional comments; see Checklist for detail.
SW6020	No additional comments; see Checklist for detail.
SW7196	No additional comments; see Checklist for detail.
SW7470	No additional comments; see Checklist for detail.
SW7471	No additional comments; see Checklist for detail.
SW8082	No additional comments; see Checklist for detail.
SW8260	No additional comments; see Checklist for detail.
SW8270	No additional comments; see Checklist for detail.
SW9045	No additional comments; see Checklist for detail.

Jim Tomalia

January 24, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method BNASIM, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG284983-1 (LB)/ WG284983-1	Chrysene	0.07700	< 0.036	< 0.2	ug/l	U/None	L	
WG284983-1 (LB)/ WG284983-1	Pyrene	0.08200	< 0.059	< 0.2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method LYDKHN, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW7OB-A-AUG2020 (MS)/ WG285074-5	Total Organic Carbon	141.8	75 - 125	30 - 150	percent	J/None	M	
NHFLA-MW9OB-B-AUG2020 (MS)/ WG285074-4	Total Organic Carbon	9.407	75 - 125	30 - 150	percent	J/X	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for LYDKHN

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW7OB-A-AUG2020	N	Total Organic Carbon	760	23000	23000 J	+	ug/g	M
NHFLA-MW9OB-B-AUG2020	N	Total Organic Carbon	1100	47000	47000 J	-	ug/g	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method LYDKHN, Prep Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of extraction found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW7OB-A-AUG2020 (N)/ SN7037-3		6.040	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW7OB-A-AUG2020 (N)/ WG285074-5		6.040	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW7OB-B-AUG2020 (N)/ SN7037-4		6.060	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW7OB-C-AUG2020 (N)/ SN7037-5		6.060	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW9OB-A-AUG2020 (N)/ SN7037-1		6.070	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW9OB-A-AUG2020 (N)/ WG285074-3		6.070	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW9OB-B-AUG2020 (N)/ SN7037-2		6.180	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW9OB-B-AUG2020 (N)/ WG285074-4		6.180	< 0	< 0	days	J/X	H2	Prep Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6010, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Cadmium	0.008200	< 0.0079	< 0.5	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Arsenic	0.07500	< 0.068	< 0.8	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Antimony	0.1200	< 0.07	< 0.8	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Magnesium	0.8500	< 0.68	< 10	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Iron	1.900	< 1.4	< 10	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Potassium	13.00	< 2.9	< 100	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Sodium	6.400	< 1.5	< 100	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Chromium	0.08200	< 0.026	< 1	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Aluminum	3.000	< 0.71	< 30	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Calcium	3.600	< 1.8	< 10	mg/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW7OB-A-AUG2020	N	Antimony	0.860	0.400 J	0.530 U		mg/kg	L
NHFLA-MW7OB-A-AUG2020	N	Cadmium	0.530	0.421 J	0.530 U		mg/kg	L
NHFLA-MW7OB-B-AUG2020	N	Antimony	0.880	0.410 J	0.550 U		mg/kg	L
NHFLA-MW7OB-B-AUG2020	N	Cadmium	0.550	0.0928 J	0.330 U		mg/kg	L
NHFLA-MW7OB-C-AUG2020	N	Antimony	0.740	0.0830 J	0.460 U		mg/kg	L
NHFLA-MW7OB-C-AUG2020	N	Cadmium	2.30	0.210 J	1.40 U		mg/kg	L
NHFLA-MW9OB-A-AUG2020	N	Antimony	0.890	0.380 J	0.560 U		mg/kg	L
NHFLA-MW9OB-A-AUG2020	N	Cadmium	0.560	0.344 J	0.560 U		mg/kg	L
NHFLA-MW9OB-A-AUG2020	N	Sodium	110	78.1 J	110 U		mg/kg	L
NHFLA-MW9OB-B-AUG2020	N	Antimony	0.740	0.280 J	0.460 U		mg/kg	L
NHFLA-MW9OB-B-AUG2020	N	Cadmium	0.460	0.133 J	0.280 U		mg/kg	L

Qualified Results associated with the Lab Blank for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW9OB-B-AUG2020	N	Sodium	93.0	75.3 J	93.0 U		mg/kg	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB3-AUG2020 (EB)/ SN7037-6	Antimony	0.05700	< 0.055	< 1	ug/l	U/None	V	
NHFLA-EB3-AUG2020 (EB)/ SN7037-6	Lead	0.09600	< 0.075	< 1	ug/l	U/None	V	
NHFLA-EB3-AUG2020 (EB)/ SN7037-6	Vanadium	0.6000	< 0.5	< 5	ug/l	U/None	V	
NHFLA-EB3-AUG2020 (EB)/ SN7037-6	Chromium	0.6900	< 0.22	< 5	ug/l	U/None	V	
NHFLA-EB3-AUG2020 (EB)/ SN7037-6	Manganese	0.6900	< 0.35	< 2	ug/l	U/None	V	
NHFLA-EB3-AUG2020 (EB)/ SN7037-6	Aluminum	13.00	< 4.4	< 100	ug/l	U/None	V	
NHFLA-EB3-AUG2020 (EB)/ SN7037-6	Sodium	160.0	< 19	< 1000	ug/l	U/None	V	
NHFLA-EB3-AUG2020 (EB)/ SN7037-6	Magnesium	19.00	< 8	< 100	ug/l	U/None	V	
NHFLA-EB3-AUG2020 (EB)/ SN7037-6	Copper	2.140	< 0.19	< 3	ug/l	U/None	V	
NHFLA-EB3-AUG2020 (EB)/ SN7037-6	Iron	26.00	< 13	< 100	ug/l	U/None	V	
NHFLA-EB3-AUG2020 (EB)/ SN7037-6	Potassium	36.00	< 31	< 1000	ug/l	U/None	V	
NHFLA-EB3-AUG2020 (EB)/ SN7037-6	Calcium	38.00	< 21	< 100	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNH27IMW1 (LB)/ PBWNH27IMW1	Lead	0.09200	< 0.074	< 1	ug/l	U/None	L	
PBWNH27IMW1 (LB)/ PBWNH27IMW1	Chromium	0.5200	< 0.22	< 5	ug/l	U/None	L	
PBWNH27IMW1 (LB)/ PBWNH27IMW1	Copper	1.300	< 0.18	< 3	ug/l	U/None	L	
PBWNH27IMW1 (LB)/ PBWNH27IMW1	Manganese	1.400	< 0.35	< 2	ug/l	U/None	L	
PBWNH27IMW1 (LB)/ PBWNH27IMW1	Magnesium	16.00	< 7.8	< 100	ug/l	U/None	L	
PBWNH27IMW1 (LB)/ PBWNH27IMW1	Aluminum	17.00	< 4.4	< 100	ug/l	U/None	L	
PBWNH27IMW1 (LB)/ PBWNH27IMW1	Calcium	28.00	< 20	< 100	ug/l	U/None	L	
PBWNH27IMW1 (LB)/ PBWNH27IMW1	Sodium	72.00	< 19	< 1000	ug/l	U/None	L	
PBWNH27IMW1 (LB)/ PBWNH27IMW1	Iron	88.00	< 13	< 100	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB3-AUG2020	EB	Aluminum	100	13.0 J	40.0 U		ug/l	L
NHFLA-EB3-AUG2020	EB	Calcium	100	38.0 J	80.0 U		ug/l	L
NHFLA-EB3-AUG2020	EB	Chromium	5.00	0.690 J	4.00 U		ug/l	L
NHFLA-EB3-AUG2020	EB	Copper	3.00	2.14 J	3.00 U		ug/l	L
NHFLA-EB3-AUG2020	EB	Iron	100	26.0 J	60.0 U		ug/l	L
NHFLA-EB3-AUG2020	EB	Lead	1.00	0.0960 J	0.500 U		ug/l	L
NHFLA-EB3-AUG2020	EB	Magnesium	100	19.0 J	80.0 U		ug/l	L
NHFLA-EB3-AUG2020	EB	Manganese	2.00	0.690 JB	1.00 U		ug/l	L
NHFLA-EB3-AUG2020	EB	Sodium	1000	160 J	400 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG284735-1 (LB)/ WG284735-1	Chromium, Hexavalent	0.002500	< 0.00076	< 0.025	mg/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7196, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW7OB-A-AUG2020 (N)/ SN7037-3		12.06	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-MW7OB-B-AUG2020 (N)/ SN7037-4		12.04	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-MW7OB-C-AUG2020 (N)/ SN7037-5		12.02	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-MW9OB-A-AUG2020 (N)/ SN7037-1		12.16	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-MW9OB-B-AUG2020 (N)/ SN7037-2		12.24	< 1	< 2	days	J/X	H1	Test Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG284885-2 (LB)/ WG284885-2	Methylene chloride	2.600	< 1.1	< 5	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-TB3-AUG2020	TB	Methylene chloride	5.00	1.40 JB	2.50 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB3-AUG2020 (EB)/ SN7037-6	1,2-Dichloroethane-d4	122.0	81 - 118	10 - 118	percent	J/None	I	
NHFLA-TB3-AUG2020 (TB)/ SN7037-7	1,2-Dichloroethane-d4	122.0	81 - 118	10 - 118	percent	J/None	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW7OB-C-AUG2020 (N)/ SN7037-5	1-Bromo-4-fluorobenzene (4-Bromofluorobenzene)	129.0	79 - 119	10 - 119	percent	J/None	I	
NHFLA-MW9OB-A-AUG2020 (N)/ SN7037-1	Dibromofluoromethane	578.0	78 - 119	10 - 119	percent	J/None	I	
NHFLA-MW9OB-A-AUG2020 (N)/ SN7037-1	1,2-Dichloroethane-d4	714.0	71 - 136	10 - 136	percent	J/None	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW7OB-C-AUG2020	N	Acetone	20.0	9.80 J	9.80 J	+	ug/kg	I/TR
NHFLA-MW7OB-C-AUG2020	N	Carbon disulfide	4.10	2.30 J	2.30 J	+	ug/kg	I/TR
NHFLA-MW9OB-A-AUG2020	N	Acetone	37.0	61.0	61.0 J	+	ug/kg	I
NHFLA-MW9OB-A-AUG2020	N	Carbon disulfide	7.40	3.00 J	3.00 J	+	ug/kg	I/TR
NHFLA-MW9OB-A-AUG2020	N	Methylene chloride	37.0	29.0 J	29.0 J	+	ug/kg	I/TR
NHFLA-MW9OB-A-AUG2020	N	Toluene	7.40	8.20	8.20 J	+	ug/kg	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Trip Blank

The purpose of trip blanks is to determine the existence and magnitude of cross-contamination problems resulting from the shipping of samples. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in trip blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-TB3-AUG2020 (TB)/ SN7037-7	Methylene chloride	1.400	< 1.1	< 5	ug/l	U/None	T	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG284841-1 (LB)/ WG284841-1	Bis(2-ethylhexyl)phthalate	250.0	< 98	< 330	ug/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW7OB-A-AUG2020	N	Bis(2-ethylhexyl)phthalate	510	510 B	510 U		ug/kg	L
NHFLA-MW7OB-B-AUG2020	N	Bis(2-ethylhexyl)phthalate	520	520 B	520 U		ug/kg	L
NHFLA-MW9OB-A-AUG2020	N	Bis(2-ethylhexyl)phthalate	370	350 JB	370 U		ug/kg	L
NHFLA-MW9OB-B-AUG2020	N	Bis(2-ethylhexyl)phthalate	380	280 JB	290 U		ug/kg	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG284982-2 (BS)/ WG284982-2	Benzaldehyde	440.0	10 - 189	10 - 189	percent	J/None	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG284841-2 (BS)/ WG284841-2	Benzaldehyde	282.0	10 - 134	10 - 134	percent	J/None	C	
WG284841-2 (BS)/ WG284841-2	Caprolactam	36.29	46 - 117	10 - 117	percent	J/UJ	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW7OB-A-AUG2020	N	Caprolactam	360	270 UL	270 UJ		ug/kg	C
NHFLA-MW7OB-B-AUG2020	N	Caprolactam	370	280 UL	280 UJ		ug/kg	C
NHFLA-MW7OB-C-AUG2020	N	Caprolactam	360	270 UL	270 UJ		ug/kg	C
NHFLA-MW9OB-A-AUG2020	N	Caprolactam	370	280 UL	280 UJ		ug/kg	C
NHFLA-MW9OB-B-AUG2020	N	Caprolactam	380	290 UL	290 UJ		ug/kg	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB3-AUG2020 (EB)/ SN7037-6	2,4,6-Tribromophenol	12.90	43 - 140	10 - 140	percent	J/UJ	I	
NHFLA-EB3-AUG2020 (EB)/ SN7037-6	Phenol-d6	5.420	10 - 90	10 - 90	percent	J/X	I	
NHFLA-EB3-AUG2020 (EB)/ SN7037-6	2-Fluorophenol	6.420	19 - 119	10 - 119	percent	J/X	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB3-AUG2020	EB	2,4,5-Trichlorophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB3-AUG2020	EB	2,4,6-Trichlorophenol	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-EB3-AUG2020	EB	2,4-Dichlorophenol	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-EB3-AUG2020	EB	2,4-Dimethylphenol	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-EB3-AUG2020	EB	2,4-Dinitrophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB3-AUG2020	EB	2-Chlorophenol	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-EB3-AUG2020	EB	2-Methylphenol (o-Cresol)	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-EB3-AUG2020	EB	2-Nitrophenol	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-EB3-AUG2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB3-AUG2020	EB	4-Chloro-3-methylphenol	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-EB3-AUG2020	EB	4-Nitrophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB3-AUG2020	EB	Cresols, m- & p-	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-EB3-AUG2020	EB	Pentachlorophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB3-AUG2020	EB	Phenol	9.60	7.20 U	7.20 X		ug/l	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW7OB-A-AUG2020 (N)/ SN7037-3	2,4,6-Tribromophenol	38.90	39 - 132	10 - 132	percent	J/UJ	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW7OB-A-AUG2020	N	2,4,5-Trichlorophenol	880	660 U	660 UJ		ug/kg	I
NHFLA-MW7OB-A-AUG2020	N	2,4,6-Trichlorophenol	360	270 U	270 UJ		ug/kg	I
NHFLA-MW7OB-A-AUG2020	N	2,4-Dichlorophenol	360	270 U	270 UJ		ug/kg	I
NHFLA-MW7OB-A-AUG2020	N	2,4-Dimethylphenol	360	270 U	270 UJ		ug/kg	I
NHFLA-MW7OB-A-AUG2020	N	2,4-Dinitrophenol	880	660 U	660 UJ		ug/kg	I
NHFLA-MW7OB-A-AUG2020	N	2-Chlorophenol	360	270 U	270 UJ		ug/kg	I
NHFLA-MW7OB-A-AUG2020	N	2-Methylphenol (o-Cresol)	360	270 U	270 UJ		ug/kg	I
NHFLA-MW7OB-A-AUG2020	N	2-Nitroaniline	880	660 U	660 UJ		ug/kg	I
NHFLA-MW7OB-A-AUG2020	N	2-Nitrophenol	360	270 U	270 UJ		ug/kg	I
NHFLA-MW7OB-A-AUG2020	N	4,6-Dinitro-2-methylphenol	880	660 U	660 UJ		ug/kg	I
NHFLA-MW7OB-A-AUG2020	N	4-Bromophenyl phenyl ether	360	270 U	270 UJ		ug/kg	I
NHFLA-MW7OB-A-AUG2020	N	4-Chloro-3-methylphenol	360	270 U	270 UJ		ug/kg	I
NHFLA-MW7OB-A-AUG2020	N	4-Nitrophenol	880	660 U	660 UJ		ug/kg	I
NHFLA-MW7OB-A-AUG2020	N	Cresols, m- & p-	360	270 U	270 UJ		ug/kg	I
NHFLA-MW7OB-A-AUG2020	N	Pentachlorophenol	880	660 U	660 UJ		ug/kg	I
NHFLA-MW7OB-A-AUG2020	N	Phenol	360	270 U	270 UJ		ug/kg	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Table of All Qualified Results

Test Method: LYDKHN	Extraction Method: METHOD							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW7OB-A-AUG2020	N	Total Organic Carbon	760	23000	23000 J	+	ug/g	M
NHFLA-MW9OB-B-AUG2020	N	Total Organic Carbon	1100	47000	47000 J	-	ug/g	M

Test Method: SW6010	Extraction Method: SW3050							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW7OB-A-AUG2020	N	Antimony	0.860	0.400 J	0.530 U		mg/kg	L
NHFLA-MW7OB-A-AUG2020	N	Cadmium	0.530	0.421 J	0.530 U		mg/kg	L
NHFLA-MW7OB-B-AUG2020	N	Antimony	0.880	0.410 J	0.550 U		mg/kg	L
NHFLA-MW7OB-B-AUG2020	N	Cadmium	0.550	0.0928 J	0.330 U		mg/kg	L
NHFLA-MW7OB-C-AUG2020	N	Antimony	0.740	0.0830 J	0.460 U		mg/kg	L
NHFLA-MW7OB-C-AUG2020	N	Cadmium	2.30	0.210 J	1.40 U		mg/kg	L
NHFLA-MW9OB-A-AUG2020	N	Antimony	0.890	0.380 J	0.560 U		mg/kg	L
NHFLA-MW9OB-A-AUG2020	N	Cadmium	0.560	0.344 J	0.560 U		mg/kg	L
NHFLA-MW9OB-A-AUG2020	N	Sodium	110	78.1 J	110 U		mg/kg	L
NHFLA-MW9OB-B-AUG2020	N	Antimony	0.740	0.280 J	0.460 U		mg/kg	L
NHFLA-MW9OB-B-AUG2020	N	Cadmium	0.460	0.133 J	0.280 U		mg/kg	L
NHFLA-MW9OB-B-AUG2020	N	Sodium	93.0	75.3 J	93.0 U		mg/kg	L

Test Method: SW6020	Extraction Method: SW3010							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB3-AUG2020	EB	Aluminum	100	13.0 J	40.0 U		ug/l	L
NHFLA-EB3-AUG2020	EB	Calcium	100	38.0 J	80.0 U		ug/l	L
NHFLA-EB3-AUG2020	EB	Chromium	5.00	0.690 J	4.00 U		ug/l	L
NHFLA-EB3-AUG2020	EB	Copper	3.00	2.14 J	3.00 U		ug/l	L
NHFLA-EB3-AUG2020	EB	Iron	100	26.0 J	60.0 U		ug/l	L
NHFLA-EB3-AUG2020	EB	Lead	1.00	0.0960 J	0.500 U		ug/l	L
NHFLA-EB3-AUG2020	EB	Magnesium	100	19.0 J	80.0 U		ug/l	L
NHFLA-EB3-AUG2020	EB	Manganese	2.00	0.690 JB	1.00 U		ug/l	L
NHFLA-EB3-AUG2020	EB	Sodium	1000	160 J	400 U		ug/l	L

Test Method: SW8260	Extraction Method: SW5030							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-TB3-AUG2020	TB	Methylene chloride	5.00	1.40 JB	2.50 U		ug/l	L

Table of All Qualified Results

Test Method: SW8260	Extraction Method: SW5035							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW7OB-C-AUG2020	N	Acetone	20.0	9.80 J	9.80 J	+	ug/kg	I/TR
NHFLA-MW7OB-C-AUG2020	N	Carbon disulfide	4.10	2.30 J	2.30 J	+	ug/kg	I/TR
NHFLA-MW9OB-A-AUG2020	N	Acetone	37.0	61.0	61.0 J	+	ug/kg	I
NHFLA-MW9OB-A-AUG2020	N	Carbon disulfide	7.40	3.00 J	3.00 J	+	ug/kg	I/TR
NHFLA-MW9OB-A-AUG2020	N	Methylene chloride	37.0	29.0 J	29.0 J	+	ug/kg	I/TR
NHFLA-MW9OB-A-AUG2020	N	Toluene	7.40	8.20	8.20 J	+	ug/kg	I

Test Method: SW8270	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB3-AUG2020	EB	2,4,5-Trichlorophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB3-AUG2020	EB	2,4,6-Trichlorophenol	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-EB3-AUG2020	EB	2,4-Dichlorophenol	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-EB3-AUG2020	EB	2,4-Dimethylphenol	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-EB3-AUG2020	EB	2,4-Dinitrophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB3-AUG2020	EB	2-Chlorophenol	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-EB3-AUG2020	EB	2-Methylphenol (o-Cresol)	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-EB3-AUG2020	EB	2-Nitrophenol	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-EB3-AUG2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB3-AUG2020	EB	4-Chloro-3-methylphenol	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-EB3-AUG2020	EB	4-Nitrophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB3-AUG2020	EB	Cresols, m- & p-	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-EB3-AUG2020	EB	Pentachlorophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB3-AUG2020	EB	Phenol	9.60	7.20 U	7.20 X		ug/l	I

Test Method: SW8270	Extraction Method: SW3550							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW7OB-A-AUG2020	N	2,4,5-Trichlorophenol	880	660 U	660 UJ		ug/kg	I
NHFLA-MW7OB-A-AUG2020	N	2,4,6-Trichlorophenol	360	270 U	270 UJ		ug/kg	I
NHFLA-MW7OB-A-AUG2020	N	2,4-Dichlorophenol	360	270 U	270 UJ		ug/kg	I
NHFLA-MW7OB-A-AUG2020	N	2,4-Dimethylphenol	360	270 U	270 UJ		ug/kg	I
NHFLA-MW7OB-A-AUG2020	N	2,4-Dinitrophenol	880	660 U	660 UJ		ug/kg	I
NHFLA-MW7OB-A-AUG2020	N	2-Chlorophenol	360	270 U	270 UJ		ug/kg	I
NHFLA-MW7OB-A-AUG2020	N	2-Methylphenol (o-Cresol)	360	270 U	270 UJ		ug/kg	I
NHFLA-MW7OB-A-AUG2020	N	2-Nitroaniline	880	660 U	660 UJ		ug/kg	I
NHFLA-MW7OB-A-AUG2020	N	2-Nitrophenol	360	270 U	270 UJ		ug/kg	I

Table of All Qualified Results

Test Method: SW8270 Extraction Method: SW3550

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW7OB-A-AUG2020	N	4,6-Dinitro-2-methylphenol	880	660 U	660 UJ		ug/kg	I
NHFLA-MW7OB-A-AUG2020	N	4-Bromophenyl phenyl ether	360	270 U	270 UJ		ug/kg	I
NHFLA-MW7OB-A-AUG2020	N	4-Chloro-3-methylphenol	360	270 U	270 UJ		ug/kg	I
NHFLA-MW7OB-A-AUG2020	N	4-Nitrophenol	880	660 U	660 UJ		ug/kg	I
NHFLA-MW7OB-A-AUG2020	N	Cresols, m- & p-	360	270 U	270 UJ		ug/kg	I
NHFLA-MW7OB-A-AUG2020	N	Pentachlorophenol	880	660 U	660 UJ		ug/kg	I
NHFLA-MW7OB-A-AUG2020	N	Phenol	360	270 U	270 UJ		ug/kg	I
NHFLA-MW7OB-A-AUG2020	N	Bis(2-ethylhexyl)phthalate	510	510 B	510 U		ug/kg	L
NHFLA-MW7OB-A-AUG2020	N	Caprolactam	360	270 UL	270 UJ		ug/kg	C
NHFLA-MW7OB-B-AUG2020	N	Bis(2-ethylhexyl)phthalate	520	520 B	520 U		ug/kg	L
NHFLA-MW7OB-B-AUG2020	N	Caprolactam	370	280 UL	280 UJ		ug/kg	C
NHFLA-MW7OB-C-AUG2020	N	Caprolactam	360	270 UL	270 UJ		ug/kg	C
NHFLA-MW9OB-A-AUG2020	N	Bis(2-ethylhexyl)phthalate	370	350 JB	370 U		ug/kg	L
NHFLA-MW9OB-A-AUG2020	N	Caprolactam	370	280 UL	280 UJ		ug/kg	C
NHFLA-MW9OB-B-AUG2020	N	Bis(2-ethylhexyl)phthalate	380	280 JB	290 U		ug/kg	L
NHFLA-MW9OB-B-AUG2020	N	Caprolactam	380	290 UL	290 UJ		ug/kg	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method LYDKHN

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW7OB-A-AUG2020	N	Total Organic Carbon	760	23000	23000 J	23000 J	M
NHFLA-MW7OB-B-AUG2020	N	Total Organic Carbon	720	18000	18000 J	18000	
NHFLA-MW7OB-C-AUG2020	N	Total Organic Carbon	550	16000	16000 J	16000	
NHFLA-MW9OB-A-AUG2020	N	Total Organic Carbon	730	42000	42000 J	42000	
NHFLA-MW9OB-B-AUG2020	N	Total Organic Carbon	1100	47000	47000 J	47000 J	M

Modified Qualifiers for test method SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW7OB-A-AUG2020	N	Chromium, Hexavalent	0.520	0.380 J	0.380 J	0.380 J	TR
NHFLA-MW7OB-B-AUG2020	N	Chromium, Hexavalent	0.550	0.330 U	0.330 X	0.330 U	
NHFLA-MW7OB-C-AUG2020	N	Chromium, Hexavalent	0.550	0.330 U	0.330 X	0.330 U	
NHFLA-MW9OB-A-AUG2020	N	Chromium, Hexavalent	2.40	1.40 U	1.40 X	1.40 U	
NHFLA-MW9OB-B-AUG2020	N	Chromium, Hexavalent	1.20	0.980 J	0.980 J	0.980 J	TR

Modified Qualifiers for test method SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB3-AUG2020	EB	1,2,4,5-Tetrachlorobenzene	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB3-AUG2020	EB	1,4-Dioxane (p-Dioxane)	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB3-AUG2020	EB	2,2'-Oxybis(1-chloropropane)	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB3-AUG2020	EB	2,4-Dinitrotoluene	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB3-AUG2020	EB	2,6-Dinitrotoluene	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB3-AUG2020	EB	2-Chloronaphthalene	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB3-AUG2020	EB	2-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	
NHFLA-EB3-AUG2020	EB	3,3'-Dichlorobenzidine	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB3-AUG2020	EB	3-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	
NHFLA-EB3-AUG2020	EB	4-Bromophenyl phenyl ether	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB3-AUG2020	EB	4-Chloroaniline	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB3-AUG2020	EB	4-Chlorophenyl phenyl ether	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB3-AUG2020	EB	4-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	
NHFLA-EB3-AUG2020	EB	Acetophenone	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB3-AUG2020	EB	Atrazine	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB3-AUG2020	EB	Benzaldehyde	9.60	7.20 UL	7.20 X	7.20 U	
NHFLA-EB3-AUG2020	EB	Benzyl butyl phthalate	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB3-AUG2020	EB	Biphenyl (Diphenyl)	9.60	7.20 U	7.20 X	7.20 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB3-AUG2020	EB	Bis(2-chloroethoxy)methane	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB3-AUG2020	EB	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB3-AUG2020	EB	Bis(2-ethylhexyl)phthalate	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB3-AUG2020	EB	Caprolactam	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB3-AUG2020	EB	Carbazole	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB3-AUG2020	EB	Dibenzofuran	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB3-AUG2020	EB	Diethyl phthalate	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB3-AUG2020	EB	Dimethyl phthalate	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB3-AUG2020	EB	Di-n-butyl phthalate	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB3-AUG2020	EB	di-n-Octyl phthalate	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB3-AUG2020	EB	Hexachlorobenzene	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB3-AUG2020	EB	Hexachlorobutadiene	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB3-AUG2020	EB	Hexachlorocyclopentadiene	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB3-AUG2020	EB	Hexachloroethane	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB3-AUG2020	EB	Isophorone	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB3-AUG2020	EB	Nitrobenzene	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB3-AUG2020	EB	N-Nitrosodi-n-propylamine	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB3-AUG2020	EB	N-Nitrosodiphenylamine	9.60	7.20 U	7.20 X	7.20 U	

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW7OB-A-AUG2020	N	1,2,4,5-Tetrachlorobenzene	360	270 U	270 UJ	270 U	
NHFLA-MW7OB-A-AUG2020	N	1,4-Dioxane (p-Dioxane)	360	270 U	270 UJ	270 U	
NHFLA-MW7OB-A-AUG2020	N	2,2'-Oxybis(1-chloropropane)	360	270 U	270 UJ	270 U	
NHFLA-MW7OB-A-AUG2020	N	2,4-Dinitrotoluene	360	270 U	270 UJ	270 U	
NHFLA-MW7OB-A-AUG2020	N	2,6-Dinitrotoluene	360	270 U	270 UJ	270 U	
NHFLA-MW7OB-A-AUG2020	N	2-Chloronaphthalene	360	270 U	270 UJ	270 U	
NHFLA-MW7OB-A-AUG2020	N	3,3'-Dichlorobenzidine	360	270 U	270 UJ	270 U	
NHFLA-MW7OB-A-AUG2020	N	3-Nitroaniline	880	660 U	660 UJ	660 U	
NHFLA-MW7OB-A-AUG2020	N	4-Chloroaniline	360	270 U	270 UJ	270 U	
NHFLA-MW7OB-A-AUG2020	N	4-Chlorophenyl phenyl ether	360	270 U	270 UJ	270 U	
NHFLA-MW7OB-A-AUG2020	N	4-Nitroaniline	880	660 U	660 UJ	660 U	
NHFLA-MW7OB-A-AUG2020	N	Acetophenone	360	270 U	270 UJ	270 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW7OB-A-AUG2020	N	Atrazine	360	270 U	270 UJ	270 U	
NHFLA-MW7OB-A-AUG2020	N	Benzaldehyde	360	270 UL	270 UJ	270 U	
NHFLA-MW7OB-A-AUG2020	N	Benzyl butyl phthalate	360	270 U	270 UJ	270 U	
NHFLA-MW7OB-A-AUG2020	N	Biphenyl (Diphenyl)	360	270 U	270 UJ	270 U	
NHFLA-MW7OB-A-AUG2020	N	Bis(2-chloroethoxy)methane	360	270 U	270 UJ	270 U	
NHFLA-MW7OB-A-AUG2020	N	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	360	270 U	270 UJ	270 U	
NHFLA-MW7OB-A-AUG2020	N	Bis(2-ethylhexyl)phthalate	510	510 B	510 J	510 U	L
NHFLA-MW7OB-A-AUG2020	N	Caprolactam	360	270 UL	270 UJ	270 UJ	C
NHFLA-MW7OB-A-AUG2020	N	Carbazole	360	270 U	270 UJ	270 U	
NHFLA-MW7OB-A-AUG2020	N	Dibenzofuran	360	270 U	270 UJ	270 U	
NHFLA-MW7OB-A-AUG2020	N	Diethyl phthalate	360	270 U	270 UJ	270 U	
NHFLA-MW7OB-A-AUG2020	N	Dimethyl phthalate	360	270 U	270 UJ	270 U	
NHFLA-MW7OB-A-AUG2020	N	Di-n-butyl phthalate	360	270 U	270 UJ	270 U	
NHFLA-MW7OB-A-AUG2020	N	di-n-Octyl phthalate	360	270 U	270 UJ	270 U	
NHFLA-MW7OB-A-AUG2020	N	Hexachlorobenzene	360	270 U	270 UJ	270 U	
NHFLA-MW7OB-A-AUG2020	N	Hexachlorobutadiene	360	270 U	270 UJ	270 U	
NHFLA-MW7OB-A-AUG2020	N	Hexachlorocyclopentadiene	360	270 U	270 UJ	270 U	
NHFLA-MW7OB-A-AUG2020	N	Hexachloroethane	360	270 U	270 UJ	270 U	
NHFLA-MW7OB-A-AUG2020	N	Isophorone	360	270 U	270 UJ	270 U	
NHFLA-MW7OB-A-AUG2020	N	Nitrobenzene	360	270 U	270 UJ	270 U	
NHFLA-MW7OB-A-AUG2020	N	N-Nitrosodi-n-propylamine	360	270 U	270 UJ	270 U	
NHFLA-MW7OB-A-AUG2020	N	N-Nitrosodiphenylamine	360	270 U	270 UJ	270 U	
NHFLA-MW7OB-B-AUG2020	N	Bis(2-ethylhexyl)phthalate	520	520 B	520 J	520 U	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Rejected Results

Test Method: SW8270	Extraction Method: SW3510	Leach Method: NONE							
FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-EB3-AUG2020	SN7037-6	W	EB	2,4,5-Trichlorophenol	24.0	18.0 U	18.0 X	ug/l	I
NHFLA-EB3-AUG2020	SN7037-6	W	EB	2,4,6-Trichlorophenol	9.60	7.20 U	7.20 X	ug/l	I
NHFLA-EB3-AUG2020	SN7037-6	W	EB	2,4-Dichlorophenol	9.60	7.20 U	7.20 X	ug/l	I
NHFLA-EB3-AUG2020	SN7037-6	W	EB	2,4-Dimethylphenol	9.60	7.20 U	7.20 X	ug/l	I
NHFLA-EB3-AUG2020	SN7037-6	W	EB	2,4-Dinitrophenol	24.0	18.0 U	18.0 X	ug/l	I
NHFLA-EB3-AUG2020	SN7037-6	W	EB	2-Chlorophenol	9.60	7.20 U	7.20 X	ug/l	I
NHFLA-EB3-AUG2020	SN7037-6	W	EB	2-Methylphenol (o-Cresol)	9.60	7.20 U	7.20 X	ug/l	I
NHFLA-EB3-AUG2020	SN7037-6	W	EB	2-Nitrophenol	9.60	7.20 U	7.20 X	ug/l	I
NHFLA-EB3-AUG2020	SN7037-6	W	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 U	18.0 X	ug/l	I
NHFLA-EB3-AUG2020	SN7037-6	W	EB	4-Chloro-3-methylphenol	9.60	7.20 U	7.20 X	ug/l	I
NHFLA-EB3-AUG2020	SN7037-6	W	EB	4-Nitrophenol	24.0	18.0 U	18.0 X	ug/l	I
NHFLA-EB3-AUG2020	SN7037-6	W	EB	Cresols, m- & p-	9.60	7.20 U	7.20 X	ug/l	I
NHFLA-EB3-AUG2020	SN7037-6	W	EB	Pentachlorophenol	24.0	18.0 U	18.0 X	ug/l	I
NHFLA-EB3-AUG2020	SN7037-6	W	EB	Phenol	9.60	7.20 U	7.20 X	ug/l	I

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
BNASIM/SW3550/NONE	1	1
SW6010/SW3050/NONE	5	33
SW7196/SW3060/NONE	5	5
SW7471/METHOD/NONE	1	1
SW8260/SW5035/NONE	2	8
SW8270/SW3550/NONE	5	150

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
BNASIM/SW3550/NONE	NHFLA-MW7OB-A-AUG2020	N	3	Benzo(a)pyrene	610	11.0	32.0	65.0	36.666666	ug/kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-MW7OB-A-AUG2020	N	1	Antimony	0.530 U	0.0750	0.530	0.860	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW7OB-A-AUG2020	N	1	Arsenic	6.33	0.0730	0.530	0.860	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW7OB-A-AUG2020	N	1	Cadmium	0.320 U	0.00840	0.320	0.530	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW7OB-A-AUG2020	N	1	Cobalt	5.39	0.0310	0.430	1.10	0.766666	mg/Kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-MW7OB-A-AUG2020	N	1	Selenium	1.60	0.180	0.750	1.10	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW7OB-A-AUG2020	N	1	Thallium	0.530 U	0.0920	0.530	1.60	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW7OB-B-AUG2020	N	1	Antimony	0.550 U	0.0770	0.550	0.880	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW7OB-B-AUG2020	N	1	Arsenic	8.76	0.0750	0.550	0.880	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW7OB-B-AUG2020	N	1	Cadmium	0.330 U	0.00870	0.330	0.550	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW7OB-B-AUG2020	N	1	Cobalt	11.2	0.0320	0.440	1.10	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW7OB-B-AUG2020	N	1	Selenium	1.20	0.190	0.770	1.10	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW7OB-B-AUG2020	N	1	Thallium	0.0960 J	0.0940	0.550	1.60	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW7OB-C-AUG2020	N	1	Antimony	0.460 U	0.0650	0.460	0.740	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW7OB-C-AUG2020	N	5	Arsenic	9.89	0.310	2.30	3.70	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW7OB-C-AUG2020	N	5	Cadmium	1.40 U	0.0360	1.40	2.30	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW7OB-C-AUG2020	N	5	Cobalt	11.5	0.130	1.80	4.60	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW7OB-C-AUG2020	N	5	Copper	38.1	0.740	4.60	12.0	9.333333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW7OB-C-AUG2020	N	5	Selenium	3.20 U	0.780	3.20	4.60	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW7OB-C-AUG2020	N	5	Silver	0.150 J	0.120	1.80	4.60	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW7OB-C-AUG2020	N	5	Thallium	0.840 J	0.400	2.30	6.90	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW7OB-C-AUG2020	N	5	Vanadium	28.3	0.170	1.80	4.60	2.6	mg/Kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-MW9OB-A-AUG2020	N	1	Antimony	0.560 U	0.0780	0.560	0.890	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW9OB-A-AUG2020	N	1	Arsenic	9.02	0.0760	0.560	0.890	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW9OB-A-AUG2020	N	1	Cadmium	0.340 U	0.00880	0.340	0.560	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW9OB-A-AUG2020	N	1	Cobalt	12.1	0.0320	0.450	1.10	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW9OB-A-AUG2020	N	1	Selenium	1.30	0.190	0.780	1.10	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW9OB-A-AUG2020	N	1	Thallium	0.150 J	0.0960	0.560	1.70	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW9OB-B-AUG2020	N	1	Antimony	0.460 U	0.0650	0.460	0.740	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW9OB-B-AUG2020	N	1	Arsenic	7.58	0.0630	0.460	0.740	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW9OB-B-AUG2020	N	1	Cadmium	0.280 U	0.00730	0.280	0.460	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW9OB-B-AUG2020	N	1	Cobalt	6.31	0.0270	0.370	0.930	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW9OB-B-AUG2020	N	1	Selenium	1.10	0.160	0.650	0.930	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW9OB-B-AUG2020	N	1	Thallium	0.480 J	0.0800	0.460	1.40	0.016666	mg/Kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7196/SW3060/NONE	NHFLA-MW7OB-A-AUG2020	N	1.2	Chromium, Hexavalent	0.380 J	0.160	0.310	0.520	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-MW7OB-B-AUG2020	N	1.2	Chromium, Hexavalent	0.330 U	0.170	0.330	0.550	0.4	mg/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7196/SW3060/NONE	NHFLA-MW7OB-C-AUG2020	N	1.2	Chromium, Hexavalent	0.330 U	0.160	0.330	0.550	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-MW9OB-A-AUG2020	N	5	Chromium, Hexavalent	1.40 U	0.710	1.40	2.40	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-MW9OB-B-AUG2020	N	2.5	Chromium, Hexavalent	0.980 J	0.350	0.700	1.20	0.4	mg/kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7471/METHOD/NONE	NHFLA-MW7OB-A-AUG2020	N	1	Mercury	0.0440	0.00540	0.0180	0.0350	0.033	mg/Kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8260/SW5035/NONE	NHFLA-MW9OB-A-AUG2020	N	1	1,2-Dibromo-3-chloropropane	3.70 U	2.20	3.70	7.40	5	ug/kg
SW8260/SW5035/NONE	NHFLA-MW9OB-A-AUG2020	N	1	Bromomethane	7.40 U	1.60	7.40	15.0	10	ug/kg
SW8260/SW5035/NONE	NHFLA-MW9OB-A-AUG2020	N	1	Carbon disulfide	3.00 J	1.10	3.70	7.40	5	ug/kg
SW8260/SW5035/NONE	NHFLA-MW9OB-A-AUG2020	N	1	Vinyl chloride	7.40 U	1.30	7.40	15.0	10	ug/kg
SW8260/SW5035/NONE	NHFLA-MW9OB-B-AUG2020	N	1	1,2-Dibromo-3-chloropropane	2.80 U	1.60	2.80	5.50	5	ug/kg
SW8260/SW5035/NONE	NHFLA-MW9OB-B-AUG2020	N	1	Bromomethane	5.50 U	1.20	5.50	11.0	10	ug/kg
SW8260/SW5035/NONE	NHFLA-MW9OB-B-AUG2020	N	1	Carbon disulfide	2.80 U	0.860	2.80	5.50	5	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8260/SW5035/NONE	NHFLA-MW9OB-B-AUG2020	N	1	Vinyl chloride	5.50 U	0.960	5.50	11.0	10	ug/kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW7OB-A-AUG2020	N	1	1,2,4,5-Tetrachlorobenzene	270 U	140	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-A-AUG2020	N	1	2,4-Dichlorophenol	270 UJ	160	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-A-AUG2020	N	1	2,4-Dimethylphenol	270 UJ	180	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-A-AUG2020	N	1	2,4-Dinitrophenol	660 UJ	410	660	880	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-A-AUG2020	N	1	2,6-Dinitrotoluene	270 U	85.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-A-AUG2020	N	1	2-Chlorophenol	270 UJ	180	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-A-AUG2020	N	1	2-Methylphenol (o-Cresol)	270 UJ	220	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-A-AUG2020	N	1	2-Nitroaniline	660 UJ	81.0	660	880	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-A-AUG2020	N	1	3,3'-Dichlorobenzidine	270 U	120	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-A-AUG2020	N	1	4,6-Dinitro-2-methylphenol	660 UJ	360	660	880	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-A-AUG2020	N	1	4-Chloroaniline	270 U	130	270	360	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-A-AUG2020	N	1	Atrazine	270 U	98.0	270	360	330	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW7OB-A-AUG2020	N	1	Benzyl butyl phthalate	270 U	100	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-A-AUG2020	N	1	Biphenyl (Diphenyl)	270 U	79.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-A-AUG2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	270 U	87.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-A-AUG2020	N	1	bis(2-Ethylhexyl) phthalate	270 U	100	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-A-AUG2020	N	1	Carbazole	270 U	120	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-A-AUG2020	N	1	Dibenzofuran	270 U	85.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-A-AUG2020	N	1	Diethyl phthalate	270 U	86.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-A-AUG2020	N	1	Dimethyl phthalate	270 U	84.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-A-AUG2020	N	1	Di-n-butyl phthalate	270 U	110	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-A-AUG2020	N	1	Di-n-octyl phthalate	270 U	230	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-A-AUG2020	N	1	Hexachlorobenzene	270 U	88.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-A-AUG2020	N	1	Hexachlorobutadiene	270 U	90.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-A-AUG2020	N	1	Hexachlorocyclopentadiene	270 U	88.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-A-AUG2020	N	1	Hexachloroethane	270 U	100	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-A-AUG2020	N	1	n-Nitrosodi-n-propylamine	270 U	90.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-A-AUG2020	N	1	n-Nitrosodiphenylamine	270 U	240	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-A-AUG2020	N	1	Pentachlorophenol	660 UJ	260	660	880	820	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW7OB-A-AUG2020	N	1	Phenol	270 UJ	170	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-B-AUG2020	N	1	1,2,4,5-Tetrachlorobenzene	280 U	150	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-B-AUG2020	N	1	2,4-Dichlorophenol	280 U	170	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-B-AUG2020	N	1	2,4-Dimethylphenol	280 U	180	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-B-AUG2020	N	1	2,4-Dinitrophenol	690 U	420	690	920	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-B-AUG2020	N	1	2,6-Dinitrotoluene	280 U	88.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-B-AUG2020	N	1	2-Chlorophenol	280 U	180	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-B-AUG2020	N	1	2-Methylphenol (o-Cresol)	280 U	220	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-B-AUG2020	N	1	2-Nitroaniline	690 U	84.0	690	920	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-B-AUG2020	N	1	3,3'-Dichlorobenzidine	280 U	130	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-B-AUG2020	N	1	4,6-Dinitro-2-methylphenol	690 U	380	690	920	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-B-AUG2020	N	1	4-Chloroaniline	280 U	130	280	370	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-B-AUG2020	N	1	Atrazine	280 U	100	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-B-AUG2020	N	1	Benzyl butyl phthalate	280 U	100	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-B-AUG2020	N	1	Biphenyl (Diphenyl)	280 U	82.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-B-AUG2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	280 U	90.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-B-AUG2020	N	1	bis(2-Ethylhexyl) phthalate	280 U	110	280	370	330	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW7OB-B-AUG2020	N	1	Carbazole	280 U	120	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-B-AUG2020	N	1	Dibenzofuran	280 U	88.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-B-AUG2020	N	1	Diethyl phthalate	280 U	89.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-B-AUG2020	N	1	Dimethyl phthalate	280 U	87.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-B-AUG2020	N	1	Di-n-butyl phthalate	280 U	110	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-B-AUG2020	N	1	Di-n-octyl phthalate	280 U	240	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-B-AUG2020	N	1	Hexachlorobenzene	280 U	92.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-B-AUG2020	N	1	Hexachlorobutadiene	280 U	93.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-B-AUG2020	N	1	Hexachlorocyclopentadiene	280 U	92.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-B-AUG2020	N	1	Hexachloroethane	280 U	110	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-B-AUG2020	N	1	n-Nitrosodi-n-propylamine	280 U	93.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-B-AUG2020	N	1	n-Nitrosodiphenylamine	280 U	240	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-B-AUG2020	N	1	Pentachlorophenol	690 U	260	690	920	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-B-AUG2020	N	1	Phenol	280 U	170	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-C-AUG2020	N	1	1,2,4,5-Tetrachlorobenzene	270 U	150	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-C-AUG2020	N	1	2,4-Dichlorophenol	270 U	160	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-C-AUG2020	N	1	2,4-Dimethylphenol	270 U	180	270	360	330	ug/kg

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Reporting Anomalies

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SW8270/SW3550/NONE	NHFLA-MW7OB-C-AUG2020	N	1	2,4-Dinitrophenol	670 U	410	670	890	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-C-AUG2020	N	1	2,6-Dinitrotoluene	270 U	86.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-C-AUG2020	N	1	2-Chlorophenol	270 U	180	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-C-AUG2020	N	1	2-Methylphenol (o-Cresol)	270 U	220	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-C-AUG2020	N	1	2-Nitroaniline	670 U	82.0	670	890	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-C-AUG2020	N	1	3,3'-Dichlorobenzidine	270 U	120	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-C-AUG2020	N	1	4,6-Dinitro-2-methylphenol	670 U	370	670	890	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-C-AUG2020	N	1	4-Chloroaniline	270 U	130	270	360	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-C-AUG2020	N	1	Atrazine	270 U	99.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-C-AUG2020	N	1	Benzyl butyl phthalate	270 U	100	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-C-AUG2020	N	1	Biphenyl (Diphenyl)	270 U	80.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-C-AUG2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	270 U	88.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-C-AUG2020	N	1	bis(2-Ethylhexyl) phthalate	270 U	110	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-C-AUG2020	N	1	Carbazole	270 U	120	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-C-AUG2020	N	1	Dibenzofuran	270 U	86.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-C-AUG2020	N	1	Diethyl phthalate	270 U	87.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-C-AUG2020	N	1	Dimethyl phthalate	270 U	85.0	270	360	330	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW7OB-C-AUG2020	N	1	Di-n-butyl phthalate	270 U	110	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-C-AUG2020	N	1	Di-n-octyl phthalate	270 U	230	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-C-AUG2020	N	1	Hexachlorobenzene	270 U	89.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-C-AUG2020	N	1	Hexachlorobutadiene	270 U	90.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-C-AUG2020	N	1	Hexachlorocyclopentadiene	270 U	89.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-C-AUG2020	N	1	Hexachloroethane	270 U	100	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-C-AUG2020	N	1	n-Nitrosodi-n-propylamine	270 U	90.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-C-AUG2020	N	1	n-Nitrosodiphenylamine	270 U	240	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-C-AUG2020	N	1	Pentachlorophenol	670 U	260	670	890	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW7OB-C-AUG2020	N	1	Phenol	270 U	170	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-A-AUG2020	N	1	1,2,4,5-Tetrachlorobenzene	280 U	150	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-A-AUG2020	N	1	2,4-Dichlorophenol	280 U	170	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-A-AUG2020	N	1	2,4-Dimethylphenol	280 U	180	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-A-AUG2020	N	1	2,4-Dinitrophenol	690 U	420	690	920	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-A-AUG2020	N	1	2,6-Dinitrotoluene	280 U	88.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-A-AUG2020	N	1	2-Chlorophenol	280 U	180	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-A-AUG2020	N	1	2-Methylphenol (o-Cresol)	280 U	220	280	370	330	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW9OB-A-AUG2020	N	1	2-Nitroaniline	690 U	84.0	690	920	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-A-AUG2020	N	1	3,3'-Dichlorobenzidine	280 U	130	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-A-AUG2020	N	1	4,6-Dinitro-2-methylphenol	690 U	380	690	920	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-A-AUG2020	N	1	4-Chloroaniline	280 U	130	280	370	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-A-AUG2020	N	1	Atrazine	320 J	100	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-A-AUG2020	N	1	Benzyl butyl phthalate	280 U	100	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-A-AUG2020	N	1	Biphenyl (Diphenyl)	280 U	82.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-A-AUG2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	280 U	91.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-A-AUG2020	N	1	bis(2-Ethylhexyl) phthalate	370 U	110	370	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-A-AUG2020	N	1	Carbazole	280 U	120	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-A-AUG2020	N	1	Dibenzofuran	280 U	88.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-A-AUG2020	N	1	Diethyl phthalate	280 U	90.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-A-AUG2020	N	1	Dimethyl phthalate	280 U	87.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-A-AUG2020	N	1	Di-n-butyl phthalate	280 U	110	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-A-AUG2020	N	1	Di-n-octyl phthalate	280 U	240	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-A-AUG2020	N	1	Hexachlorobenzene	280 U	92.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-A-AUG2020	N	1	Hexachlorobutadiene	280 U	93.0	280	370	330	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW9OB-A-AUG2020	N	1	Hexachlorocyclopentadiene	280 U	92.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-A-AUG2020	N	1	Hexachloroethane	280 U	110	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-A-AUG2020	N	1	n-Nitrosodi-n-propylamine	280 U	93.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-A-AUG2020	N	1	n-Nitrosodiphenylamine	280 U	240	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-A-AUG2020	N	1	Pentachlorophenol	690 U	260	690	920	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-A-AUG2020	N	1	Phenol	280 U	170	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-B-AUG2020	N	1	1,2,4,5-Tetrachlorobenzene	290 U	160	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-B-AUG2020	N	1	2,4-Dichlorophenol	290 U	170	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-B-AUG2020	N	1	2,4-Dimethylphenol	290 U	190	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-B-AUG2020	N	1	2,4-Dinitrophenol	710 U	440	710	950	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-B-AUG2020	N	1	2,6-Dinitrotoluene	290 U	92.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-B-AUG2020	N	1	2-Chlorophenol	290 U	190	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-B-AUG2020	N	1	2-Methylphenol (o-Cresol)	290 U	230	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-B-AUG2020	N	1	2-Nitroaniline	710 U	87.0	710	950	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-B-AUG2020	N	1	3,3'-Dichlorobenzidine	290 U	130	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-B-AUG2020	N	1	4,6-Dinitro-2-methylphenol	710 U	390	710	950	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-B-AUG2020	N	1	4-Chloroaniline	290 U	140	290	380	333.333333	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW9OB-B-AUG2020	N	1	Atrazine	290 U	100	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-B-AUG2020	N	1	Benzyl butyl phthalate	290 U	110	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-B-AUG2020	N	1	Biphenyl (Diphenyl)	290 U	85.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-B-AUG2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	290 U	94.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-B-AUG2020	N	1	bis(2-Ethylhexyl) phthalate	290 U	110	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-B-AUG2020	N	1	Carbazole	290 U	130	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-B-AUG2020	N	1	Dibenzofuran	290 U	92.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-B-AUG2020	N	1	Diethyl phthalate	290 U	93.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-B-AUG2020	N	1	Dimethyl phthalate	290 U	90.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-B-AUG2020	N	1	Di-n-butyl phthalate	290 U	120	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-B-AUG2020	N	1	Di-n-octyl phthalate	290 U	240	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-B-AUG2020	N	1	Hexachlorobenzene	290 U	95.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-B-AUG2020	N	1	Hexachlorobutadiene	290 U	96.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-B-AUG2020	N	1	Hexachlorocyclopentadiene	290 U	95.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-B-AUG2020	N	1	Hexachloroethane	290 U	110	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-B-AUG2020	N	1	n-Nitrosodi-n-propylamine	290 U	96.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-B-AUG2020	N	1	n-Nitrosodiphenylamine	290 U	250	290	380	330	ug/kg

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Automated Data Review Detail Report for SN7037
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW9OB-B-AUG2020	N	1	Pentachlorophenol	710 U	270	710	950	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW9OB-B-AUG2020	N	1	Phenol	290 U	180	290	380	330	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
C	LCS Recovery
H1	Test Hold Time
H2	Prep Hold Time
I	Surrogate recovery outside project limits.
L	Lab Blank
M	MS Recovery
T	Trip Blank
TR	Trace Level Detect
V	Equipment Blank

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: A2340B (Hardness by Calculation)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: BNASIM (GC/MS-SIM Analysis by SW8270)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG284983-1 (water) prep blank had detections below the LOD for pyrene and chrysene. Qualification of field results was not required based on these prep blank detections.
Were target analytes in the field blank less than MDL?		•		
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	LCS only
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Case narrative comments associated with Stage 3 deliverable non-conformances including Internal Standard responses, ICAL, ICV, CCV for 8270D SIM-PAH analysis were not addressed as part of this level 2A data package review.
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data rejected during the verification process?		•		

Review Questions

Method: LYDKHN (Lloyd Kahn Method for the Determination of Total Organic Carbon in Sediment, USEPA Region II Method)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			NOTE: Hold time qualifiers were removed from database since analytical hold time (6 days) was within the 14 day hold time requirement for this project.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample NHFLA-MW9OB-B-AUG2020 MS recovery was an outlier biased low (10%) and sample NHFLA-MW7OB-A-AUG2020 recovery was an outlier biased high (142%) so both of these samples were qualified as estimated with J flags.
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?				
Were QAPP specified laboratory PQLs achieved?				
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data rejected during the verification process?		•		

Review Questions

Method: M8315A (Determination of Hydrazine, Monomethylhydrazine, and 1,1- Dimethylhydrazine in Aqueous and Soil Samples by LC/MS/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?		•		LCS only in QC batch 37524 was an outlier biased high for 1,1-dimethylhydrazine. Client sample results was non-detect so was not affected by the high bias and qualification was not required. NOTE: This subcontracted M8315A data was not represented electronically in the FUDSChem database so will not appear in QC outlier tables noted above.
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were surrogate recoveries within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW6010 (Trace Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch NH27ICS1 method blank had detections below the LOD for aluminum, antimony, arsenic, cadmium, calcium, chromium, iron, magnesium, potassium and sodium. All client sample soil antimony results were qualified as non-detect at the LOD due to method blank detections. Sodium results for samples -001 and -002 and cadmium results for samples -001, -002, -003, -004, -005 were qualified non-detect at the LOD with U/L flag/reason codes..
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data rejected during the verification process?		•		

Review Questions

Method: SW6020 (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch NH27IMW1 prep blank had detections below the LOD for aluminum, calcium, chromium, copper, lead, magnesium and sodium and above the LOD for manganese and iron. Client sample NHFLA-EB3-AUG2020 results for copper was qualified as non-detect at the LOQ and the remaining metals were considered non-detect at the LOD and qualified with U flags based on the method blank detections.
Were target analytes in the field blank less than MDL?			•	The only sample in this batch was the equipment blank.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY.
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7196 (Chromium, Hexavalent (Colorimetric))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			NOTE: H1 flags were removed from database for soil samples since prep and analysis hold times were within project criteria.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG284735 prep blank had a detection below the RL. Qualification of field results was not required based on this prep blank detection.
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?		•		Project QAPP MS soluble and insoluble pre-digestion MS requirements were not both met. Only one MS reported.
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7470 (Mercury in Liquid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7471 (Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data rejected during the verification process?		•		

Review Questions

Method: SW8082 (Polychlorinated Biphenyls (PCB))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?			•	SW8082 testing was not required for this COC sample submittal.
Were samples preserved properly and received in good condition?			•	
Were holding times met?			•	
Were all requested target analytes reported?			•	
Was a method blank prepared and analyzed with each batch?			•	
Were target analytes in the method blank less than MDL?			•	
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?			•	
Were LCS/LCSD recoveries within project acceptance limits?			•	
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were surrogate recoveries within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?			•	
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?			•	
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?			•	

Review Questions

Method: SW8260 (Volatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Method 8260C surrogate recoveries were outside of project criteria biased high for 2 of 4 surrogates in client sample -001 original run (samples -001 and -002 were re-analyzed but not reported in FUDSChem data base). Surrogates were outliers biased high for 1 of 4 surrogates in client samples -005, -006, -007. The following results should be qualified as estimated with J/I/ + qualifiers: samples -001 - acetone, toluene, carbon disulfide, methylene chloride. Samples -005 - acetone, carbon disulfide.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		Method 8260C QC batch WG2848852-2 method blank had a detection below the LOQ for methylene chloride. Client sample -007 result for this analyte was qualified as non-detect at the LOD with U/L flag/reason code.
Were target analytes in the field blank less than MDL?		•		Trip blank had a detection for methylene chloride below the LOQ that was no used to qualify field sample results.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Internal standard outlier issues noted in case narrative were not addressed as part of this stage 2A validation review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data rejected during the verification process?		•		

Review Questions

Method: SW8270 (Semivolatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Sample NHFLA-EB3-AUG2020 acid fraction surrogate recoveries were all outliers biased low with 2 of 3 recoveries less than 10%. Acid fraction analyte results only for this sample should be considered UNUSABLE and qualified with X flags. NOTE: database flags were removed for base-neutral fraction analytes in this sample since those fraction specific surrogate recoveries were acceptable. Sample NHFLA-MW7OB-A-AUG2020 surrogates were outliers biased marginally low (38.9% recovery) for 1 of 3 acid fraction surrogates. The acid fraction target analyte results in this sample should be considered estimated and were qualified with UJ flags if non-detect and J flags when detected.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG284841 prep blank had a detection below the PQL for bis-2-ethylhexylphthalate. Samples NHFLA-MW9OB-A-AUG2020 and NHFLA-MW9OB-B-AUG2020 results for this analyte are considered non-detect at the PQL and qualified with U flags. Samples NHFLA-MW7OB-A-AUG2020 and NHFLA-MW7OB-B-AUG2020 results for this analyte were above the PQL so it was updated to the level detected and qualified with U flags.
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch WG284841-2 recovery was an outlier biased low for Caprolactam. All soil client sample results for this analyte were qualified as estimated and qualified with UJ flags. Benzaldehyde high bias recovery in QC batches WG284982-2 and WG284841-2 did not result in qualification for field results.
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Case narrative comments associated with Stage 3 deliverable non-conformances including Internal Standard responses, ICV, CCV for 8270D analysis were not addressed as part of this level 2A data package review.

Review Questions

Method: SW8270 (Semivolatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data rejected during the verification process?	•			Sample NHFLA-EB3-AUG2020 acid fraction surrogate recoveries were all outliers biased low with 2 of 3 recoveries less than 10%. Acid fraction analyte results only for this sample should be considered UNUSABLE and qualified with X flags. NOTE: database flags were removed for base-neutral fraction analytes in this sample since those fraction specific surrogate recoveries were acceptable.

Review Questions

Method: SW9045 (Soil pH)

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?			•	
Were target analytes in the method blank less than MDL?			•	
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only.
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data rejected during the verification process?		•		

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	SN7081
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Katahdin Analytical Services, Westbrook, ME
Data Review Contractor:	CADENA
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	December 03, 2020 - revised report submitted January 25, 2021 based on DoD chemist review recommendations.

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	BNASIM	LYDKHN	SW6010	SW6020	SW7196	SW7470	SW7471	SW8260	SW8270	SW9045
NHFLA-MW16-A-AUG2020	SN7081-1	Solid	Field Sample/N	X	X	X		X		X	X	X	X
NHFLA-MW16-B-AUG2020	SN7081-2	Solid	Field Sample/N	X	X	X		X		X	X	X	
NHFLA-MW16-C-AUG2020	SN7081-3	Solid	Field Sample/N	X	X	X		X		X	X	X	
NHFLA-EB4-AUG2020	SN7081-4	Water	Equipment Blank/EB	X			X	X	X		X	X	
NHFLA-TB4-AUG2020	SN7081-5	Water	Trip Blank/TB								X		

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Katahdin Analytical Services, Westbrook, ME and were reported under sample delivery group (SDG) SN7081. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Extracted Internal Standard
- Lab Blank
- LCS Recovery
- LCS RPD
- Prep Hold Time
- Surrogate
- Test Hold Time
- Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 93 results (14.93%) out of the 623 results (sample and field QC samples) reported are qualified based on review and 0 results (0.00%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

NOTE: Hydrazine results were reported in this SDG PDF lab report as subcontracted data but associated SEDD did not include hydrazine data. Hydrazine validation review narrative and qualifications are summarized separately in SDG 11806-1.

Analytical Method	Data Reviewer Comment
BNASIM	No additional comments; see Checklist for detail.
LYDKHN	No additional comments; see Checklist for detail.
SW6010	No additional comments; see Checklist for detail.
SW6020	No additional comments; see Checklist for detail.
SW7196	No additional comments; see Checklist for detail.
SW7470	No additional comments; see Checklist for detail.
SW7471	No additional comments; see Checklist for detail.
SW8260	No additional comments; see Checklist for detail.
SW8270	No additional comments; see Checklist for detail.
SW9045	No additional comments; see Checklist for detail.

Jim Tomalia

January 25, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method BNASIM, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG284983-1 (LB)/ WG284983-1	Chrysene	0.07700	< 0.036	< 0.2	ug/l	U/None	L	
WG284983-1 (LB)/ WG284983-1	Pyrene	0.08200	< 0.059	< 0.2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method BNASIM, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG284898-1 (LB)/ WG284898-1	Benzo (g,h,i)perylene	3.200	< 2	< 20	ug/kg	U/None	L	
WG284898-1 (LB)/ WG284898-1	Indeno(1,2,3-c,d)pyrene	3.700	< 1.9	< 20	ug/kg	U/None	L	
WG284898-1 (LB)/ WG284898-1	Dibenz (a,h)anthracene	3.800	< 1.8	< 20	ug/kg	U/None	L	
WG285191-1 (LB)/ WG285191-1	Benzo (a)anthracene	2.000	< 1.9	< 20	ug/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW16-C-AUG2020	N	Benzo(g,h,i)perylene	23.0	13.0 J	23.0 U		ug/kg	L
NHFLA-MW16-C-AUG2020	N	Indeno(1,2,3-c,d)pyrene	23.0	15.0 J	23.0 U		ug/kg	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method BNASIM, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG284898-2 (BS)/ WG284898-2	Benzo(a)pyrene	40.48	50 - 125	10 - 125	percent	J/UJ	C	
WG284898-2 (BS)/ WG284898-2	Anthracene	46.18	50 - 114	10 - 114	percent	J/UJ	C	
WG285191-2 (BS)/ WG285191-2	Benzo (b)fluoranthene	47.08	53 - 128	10 - 128	percent	J/UJ	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW16-A-AUG2020	N	Anthracene	18.0	48.0 L	48.0 J	-	ug/kg	C
NHFLA-MW16-A-AUG2020	N	Benzo(a)pyrene	18.0	240 L	240 J	-	ug/kg	C
NHFLA-MW16-B-AUG2020	N	Anthracene	21.0	190 L	190 J	-	ug/kg	C
NHFLA-MW16-B-AUG2020	N	Benzo(a)pyrene	21.0	330 L	330 J	-	ug/kg	C
NHFLA-MW16-C-AUG2020	N	Anthracene	23.0	4.10 JL	4.10 J	-	ug/kg	C/TR
NHFLA-MW16-C-AUG2020	N	Benzo(a)pyrene	23.0	14.0 JL	14.0 J	-	ug/kg	C/TR

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method LYDKHN, Prep Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of extraction found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW16-A-AUG2020 (N)/ SN7081-1		5.370	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW16-B-AUG2020 (N)/ SN7081-2		5.350	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW16-C-AUG2020 (N)/ SN7081-3		5.220	< 0	< 0	days	J/X	H2	Prep Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6010, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Cadmium	0.008200	< 0.0079	< 0.5	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Arsenic	0.07500	< 0.068	< 0.8	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Antimony	0.1200	< 0.07	< 0.8	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Magnesium	0.8500	< 0.68	< 10	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Iron	1.900	< 1.4	< 10	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Potassium	13.00	< 2.9	< 100	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Sodium	6.400	< 1.5	< 100	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Chromium	0.08200	< 0.026	< 1	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Aluminum	3.000	< 0.71	< 30	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Calcium	3.600	< 1.8	< 10	mg/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW16-A-AUG2020	N	Antimony	0.720	0.180 J	0.450 U		mg/kg	L
NHFLA-MW16-A-AUG2020	N	Cadmium	0.450	0.228 J	0.270 U		mg/kg	L
NHFLA-MW16-B-AUG2020	N	Antimony	0.770	0.300 J	0.480 U		mg/kg	L
NHFLA-MW16-B-AUG2020	N	Cadmium	0.480	0.421 J	0.480 U		mg/kg	L
NHFLA-MW16-C-AUG2020	N	Antimony	0.970	0.460 J	0.610 U		mg/kg	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB4-AUG2020 (EB)/ SN7081-4	Lead	0.08100	< 0.075	< 1	ug/l	U/None	V	
NHFLA-EB4-AUG2020 (EB)/ SN7081-4	Chromium	0.6400	< 0.22	< 5	ug/l	U/None	V	
NHFLA-EB4-AUG2020 (EB)/ SN7081-4	Copper	0.8400	< 0.19	< 3	ug/l	U/None	V	
NHFLA-EB4-AUG2020 (EB)/ SN7081-4	Manganese	1.600	< 0.35	< 2	ug/l	U/None	V	
NHFLA-EB4-AUG2020 (EB)/ SN7081-4	Aluminum	12.00	< 4.4	< 100	ug/l	U/None	V	
NHFLA-EB4-AUG2020 (EB)/ SN7081-4	Sodium	140.0	< 19	< 1000	ug/l	U/None	V	
NHFLA-EB4-AUG2020 (EB)/ SN7081-4	Magnesium	18.00	< 8	< 100	ug/l	U/None	V	
NHFLA-EB4-AUG2020 (EB)/ SN7081-4	Calcium	43.00	< 21	< 100	ug/l	U/None	V	
NHFLA-EB4-AUG2020 (EB)/ SN7081-4	Cobalt	0.1500	< 0.06	< 1	ug/l	U/None	V	
NHFLA-EB4-AUG2020 (EB)/ SN7081-4	Thallium	0.2600	< 0.06	< 1	ug/l	U/None	V	
NHFLA-EB4-AUG2020 (EB)/ SN7081-4	Barium	1.700	< 0.27	< 2	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNH28IMW2 (LB)/ PBWNH28IMW2	Copper	0.4600	< 0.18	< 3	ug/l	U/None	L	
PBWNH28IMW2 (LB)/ PBWNH28IMW2	Magnesium	13.00	< 7.8	< 100	ug/l	U/None	L	
PBWNH28IMW2 (LB)/ PBWNH28IMW2	Sodium	41.00	< 19	< 1000	ug/l	U/None	L	
PBWNH28IMW2 (LB)/ PBWNH28IMW2	Aluminum	8.300	< 4.4	< 100	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB4-AUG2020	EB	Aluminum	100	12.0 J	40.0 U		ug/l	L
NHFLA-EB4-AUG2020	EB	Copper	3.00	0.840 J	2.00 U		ug/l	L
NHFLA-EB4-AUG2020	EB	Magnesium	100	18.0 J	80.0 U		ug/l	L
NHFLA-EB4-AUG2020	EB	Sodium	1000	140 J	400 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB4-AUG2020 (EB)/ SN7081-4	Chromium, Hexavalent	0.0009600	< 0.00076	< 0.025	mg/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7196, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG284995-1 (LB)/ WG284995-1	Chromium, Hexavalent	0.002600	< 0.00076	< 0.025	mg/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB4-AUG2020	EB	Chromium, Hexavalent	0.0250	0.000960 J	0.0125 U		mg/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW16-A-AUG2020 (N)/ SN7081-1		11.25	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-MW16-B-AUG2020 (N)/ SN7081-2		11.22	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-MW16-C-AUG2020 (N)/ SN7081-3		11.08	< 1	< 2	days	J/X	H1	Test Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB4-AUG2020 (EB)/ SN7081-4	Acetone	2.900	< 2.2	< 5	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG284885-2 (LB)/ WG284885-2	Methylene chloride	2.600	< 1.1	< 5	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-TB4-AUG2020	TB	Methylene chloride	5.00	1.70 JB	2.50 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB4-AUG2020 (EB)/ SN7081-4	1,2-Dichloroethane-d4	120.0	81 - 118	10 - 118	percent	J/None	I	
NHFLA-TB4-AUG2020 (TB)/ SN7081-5	1,2-Dichloroethane-d4	121.0	81 - 118	10 - 118	percent	J/None	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB4-AUG2020	EB	Acetone	5.00	2.90 J	2.90 J	+	ug/l	I/TR

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW16-A-AUG2020 (N)/ SN7081-1	Toluene-d8	243.0	85 - 116	10 - 116	percent	J/None	I	
NHFLA-MW16-A-AUG2020 (N)/ SN7081-1	1-Bromo-4-fluorobenzene (4-Bromofluorobenzene)	297.0	79 - 119	10 - 119	percent	J/None	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW16-A-AUG2020	N	Acetone	17.0	7.20 J	7.20 J	+	ug/kg	I/TR
NHFLA-MW16-A-AUG2020	N	Methylene chloride	17.0	5.60 J	5.60 J	+	ug/kg	I/TR

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Trip Blank

The purpose of trip blanks is to determine the existence and magnitude of cross-contamination problems resulting from the shipping of samples. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in trip blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-TB4-AUG2020 (TB)/ SN7081-5	Methylene chloride	1.700	< 1.1	< 5	ug/l	U/None	T	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG284899-1 (LB)/ WG284899-1	Bis(2-ethylhexyl)phthalate	1900	< 98	< 330	ug/kg	U/None	L	
WG285192-1 (LB)/ WG285192-1	Bis(2-ethylhexyl)phthalate	2800	< 98	< 330	ug/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW16-A-AUG2020	N	Bis(2-ethylhexyl)phthalate	320	1900 BL	240 U		ug/kg	L/C
NHFLA-MW16-B-AUG2020	N	Bis(2-ethylhexyl)phthalate	360	2200 BL	270 U		ug/kg	L
NHFLA-MW16-C-AUG2020	N	Bis(2-ethylhexyl)phthalate	420	2500 BL	310 UJ		ug/kg	L/I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG284982-2 (BS)/ WG284982-2	Benzaldehyde	440.0	10 - 189	10 - 189	percent	J/None	C	
WG285183-2 (BS)/ WG285183-2	Benzaldehyde	310.0	10 - 189	10 - 189	percent	J/None	C	
WG285183-2 (BS)/ WG285183-2	Caprolactam	7.680	10 - 86	10 - 86	percent	J/X	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG284899-2 (BS)/ WG284899-2	4-Chloroaniline	15.09	17 - 106	10 - 106	percent	J/UJ	C	
WG284899-2 (BS)/ WG284899-2	Bis(2-ethylhexyl)phthalate	158.1	51 - 133	10 - 133	percent	J/None	C	
WG284899-2 (BS)/ WG284899-2	Benzaldehyde	269.5	10 - 134	10 - 134	percent	J/None	C	
WG284899-2 (BS)/ WG284899-2	3-Nitroaniline	32.10	33 - 119	10 - 119	percent	J/UJ	C	
WG285192-2 (BS)/ WG285192-2	Atrazine	10.18	47 - 127	10 - 127	percent	J/UJ	C	
WG285192-2 (BS)/ WG285192-2	3,3'-Dichlorobenzidine	132.9	22 - 121	10 - 121	percent	J/None	C	
WG285192-2 (BS)/ WG285192-2	Bis(2-ethylhexyl)phthalate	189.2	51 - 133	10 - 133	percent	J/None	C	
WG285192-2 (BS)/ WG285192-2	Benzaldehyde	316.8	10 - 134	10 - 134	percent	J/None	C	
WG285192-2 (BS)/ WG285192-2	Caprolactam	34.07	46 - 117	10 - 117	percent	J/UJ	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW16-A-AUG2020	N	Bis(2-ethylhexyl)phthalate	320	1900 BL	240 U		ug/kg	L/C
NHFLA-MW16-A-AUG2020	N	Atrazine	320	240 UL	240 UJ		ug/kg	C
NHFLA-MW16-A-AUG2020	N	Caprolactam	320	240 UL	240 UJ		ug/kg	C
NHFLA-MW16-B-AUG2020	N	Atrazine	360	270 UL	270 UJ		ug/kg	C
NHFLA-MW16-B-AUG2020	N	Caprolactam	360	270 UL	270 UJ		ug/kg	C
NHFLA-MW16-C-AUG2020	N	Atrazine	420	310 UL	310 UJ		ug/kg	C/I
NHFLA-MW16-C-AUG2020	N	Caprolactam	420	310 UL	310 UJ		ug/kg	C/I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB4-AUG2020 (EB)/ SN7081-4	2,4,6-Tribromophenol	33.30	43 - 140	10 - 140	percent	J/UJ	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB4-AUG2020	EB	2,4,5-Trichlorophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB4-AUG2020	EB	2,4,6-Trichlorophenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-EB4-AUG2020	EB	2,4-Dichlorophenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-EB4-AUG2020	EB	2,4-Dimethylphenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-EB4-AUG2020	EB	2,4-Dinitrophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB4-AUG2020	EB	2-Chlorophenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-EB4-AUG2020	EB	2-Methylphenol (o-Cresol)	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-EB4-AUG2020	EB	2-Nitroaniline	24.0	18.0 U	18.0 U		ug/l	I
NHFLA-EB4-AUG2020	EB	2-Nitrophenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-EB4-AUG2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB4-AUG2020	EB	4-Chloro-3-methylphenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-EB4-AUG2020	EB	4-Nitrophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB4-AUG2020	EB	Cresols, m- & p-	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-EB4-AUG2020	EB	Pentachlorophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB4-AUG2020	EB	Phenol	9.60	7.20 U	7.20 UJ		ug/l	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW16-C-AUG2020 (N)/ SN7081-3	2,4,6-Tribromophenol	38.80	39 - 132	10 - 132	percent	J/UJ	I	
NHFLA-MW16-C-AUG2020 (N)/ SN7081-3	2-Fluorobiphenyl	39.80	44 - 115	10 - 115	percent	J/UJ	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW16-C-AUG2020	N	1,2,4,5-Tetrachlorobenzene	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	1,4-Dioxane (p-Dioxane)	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	2,2'-Oxybis(1-chloropropane)	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	2,4,5-Trichlorophenol	1000	770 U	770 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	2,4,6-Trichlorophenol	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	2,4-Dichlorophenol	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	2,4-Dimethylphenol	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	2,4-Dinitrophenol	1000	770 U	770 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	2,4-Dinitrotoluene	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	2,6-Dinitrotoluene	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	2-Chloronaphthalene	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	2-Chlorophenol	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	2-Methylphenol (o-Cresol)	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	2-Nitroaniline	1000	770 U	770 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	2-Nitrophenol	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	3,3'-Dichlorobenzidine	420	310 UL	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	3-Nitroaniline	1000	770 U	770 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	4,6-Dinitro-2-methylphenol	1000	770 U	770 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	4-Bromophenyl phenyl ether	420	310 U	310 UJ		ug/kg	I

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW16-C-AUG2020	N	4-Chloro-3-methylphenol	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	4-Chloroaniline	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	4-Chlorophenyl phenyl ether	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	4-Nitroaniline	1000	770 U	770 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	4-Nitrophenol	1000	770 U	770 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Acetophenone	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Atrazine	420	310 UL	310 UJ		ug/kg	C/I
NHFLA-MW16-C-AUG2020	N	Benzaldehyde	420	310 UL	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Benzyl butyl phthalate	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Biphenyl (Diphenyl)	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Bis(2-chloroethoxy)methane	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Bis(2-ethylhexyl)phthalate	420	2500 BL	310 UJ		ug/kg	L/I
NHFLA-MW16-C-AUG2020	N	Caprolactam	420	310 UL	310 UJ		ug/kg	C/I
NHFLA-MW16-C-AUG2020	N	Carbazole	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Cresols, m- & p-	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Dibenzofuran	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Diethyl phthalate	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Dimethyl phthalate	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Di-n-butyl phthalate	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	di-n-Octyl phthalate	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Hexachlorobenzene	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Hexachlorobutadiene	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Hexachlorocyclopentadiene	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Hexachloroethane	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Isophorone	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Nitrobenzene	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	N-Nitrosodi-n-propylamine	420	310 U	310 UJ		ug/kg	I

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW16-C-AUG2020	N	N-Nitrosodiphenylamine	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Pentachlorophenol	1000	770 U	770 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Phenol	420	310 U	310 UJ		ug/kg	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Table of All Qualified Results

Test Method: BNASIM	Extraction Method: SW3550							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW16-A-AUG2020	N	Anthracene	18.0	48.0 L	48.0 J	-	ug/kg	C
NHFLA-MW16-A-AUG2020	N	Benzo(a)pyrene	18.0	240 L	240 J	-	ug/kg	C
NHFLA-MW16-B-AUG2020	N	Anthracene	21.0	190 L	190 J	-	ug/kg	C
NHFLA-MW16-B-AUG2020	N	Benzo(a)pyrene	21.0	330 L	330 J	-	ug/kg	C
NHFLA-MW16-C-AUG2020	N	Benzo(g,h,i)perylene	23.0	13.0 J	23.0 U		ug/kg	L
NHFLA-MW16-C-AUG2020	N	Indeno(1,2,3-c,d)pyrene	23.0	15.0 J	23.0 U		ug/kg	L
NHFLA-MW16-C-AUG2020	N	Anthracene	23.0	4.10 JL	4.10 J	-	ug/kg	C/TR
NHFLA-MW16-C-AUG2020	N	Benzo(a)pyrene	23.0	14.0 JL	14.0 J	-	ug/kg	C/TR

Test Method: SW6010	Extraction Method: SW3050							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW16-A-AUG2020	N	Antimony	0.720	0.180 J	0.450 U		mg/kg	L
NHFLA-MW16-A-AUG2020	N	Cadmium	0.450	0.228 J	0.270 U		mg/kg	L
NHFLA-MW16-B-AUG2020	N	Antimony	0.770	0.300 J	0.480 U		mg/kg	L
NHFLA-MW16-B-AUG2020	N	Cadmium	0.480	0.421 J	0.480 U		mg/kg	L
NHFLA-MW16-C-AUG2020	N	Antimony	0.970	0.460 J	0.610 U		mg/kg	L

Test Method: SW6020	Extraction Method: SW3010							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB4-AUG2020	EB	Aluminum	100	12.0 J	40.0 U		ug/l	L
NHFLA-EB4-AUG2020	EB	Copper	3.00	0.840 J	2.00 U		ug/l	L
NHFLA-EB4-AUG2020	EB	Magnesium	100	18.0 J	80.0 U		ug/l	L
NHFLA-EB4-AUG2020	EB	Sodium	1000	140 J	400 U		ug/l	L

Test Method: SW7196	Extraction Method: NONE							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB4-AUG2020	EB	Chromium, Hexavalent	0.0250	0.000960 J	0.0125 U		mg/l	L

Test Method: SW8260	Extraction Method: SW5030							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB4-AUG2020	EB	Acetone	5.00	2.90 J	2.90 J	+	ug/l	I/TR
NHFLA-TB4-AUG2020	TB	Methylene chloride	5.00	1.70 JB	2.50 U		ug/l	L

Test Method: SW8260	Extraction Method: SW5035							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW16-A-AUG2020	N	Acetone	17.0	7.20 J	7.20 J	+	ug/kg	I/TR
NHFLA-MW16-A-AUG2020	N	Methylene chloride	17.0	5.60 J	5.60 J	+	ug/kg	I/TR

Test Method: SW8270	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB4-AUG2020	EB	2,4,5-Trichlorophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB4-AUG2020	EB	2,4,6-Trichlorophenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-EB4-AUG2020	EB	2,4-Dichlorophenol	9.60	7.20 U	7.20 UJ		ug/l	I

Table of All Qualified Results

Test Method: SW8270	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB4-AUG2020	EB	2,4-Dimethylphenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-EB4-AUG2020	EB	2,4-Dinitrophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB4-AUG2020	EB	2-Chlorophenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-EB4-AUG2020	EB	2-Methylphenol (o-Cresol)	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-EB4-AUG2020	EB	2-Nitroaniline	24.0	18.0 U	18.0 U		ug/l	I
NHFLA-EB4-AUG2020	EB	2-Nitrophenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-EB4-AUG2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB4-AUG2020	EB	4-Chloro-3-methylphenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-EB4-AUG2020	EB	4-Nitrophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB4-AUG2020	EB	Cresols, m- & p-	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-EB4-AUG2020	EB	Pentachlorophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB4-AUG2020	EB	Phenol	9.60	7.20 U	7.20 UJ		ug/l	I

Test Method: SW8270	Extraction Method: SW3550							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW16-A-AUG2020	N	Bis(2-ethylhexyl)phthalate	320	1900 BL	240 U		ug/kg	L/C
NHFLA-MW16-A-AUG2020	N	Atrazine	320	240 UL	240 UJ		ug/kg	C
NHFLA-MW16-A-AUG2020	N	Caprolactam	320	240 UL	240 UJ		ug/kg	C
NHFLA-MW16-B-AUG2020	N	Bis(2-ethylhexyl)phthalate	360	2200 BL	270 U		ug/kg	L
NHFLA-MW16-B-AUG2020	N	Atrazine	360	270 UL	270 UJ		ug/kg	C
NHFLA-MW16-B-AUG2020	N	Caprolactam	360	270 UL	270 UJ		ug/kg	C
NHFLA-MW16-C-AUG2020	N	1,2,4,5-Tetrachlorobenzene	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	1,4-Dioxane (p-Dioxane)	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	2,2'-Oxybis(1-chloropropane)	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	2,4,5-Trichlorophenol	1000	770 U	770 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	2,4,6-Trichlorophenol	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	2,4-Dichlorophenol	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	2,4-Dimethylphenol	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	2,4-Dinitrophenol	1000	770 U	770 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	2,4-Dinitrotoluene	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	2,6-Dinitrotoluene	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	2-Chloronaphthalene	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	2-Chlorophenol	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	2-Methylphenol (o-Cresol)	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	2-Nitroaniline	1000	770 U	770 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	2-Nitrophenol	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	3,3'-Dichlorobenzidine	420	310 UL	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	3-Nitroaniline	1000	770 U	770 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	4,6-Dinitro-2-methylphenol	1000	770 U	770 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	4-Bromophenyl phenyl ether	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	4-Chloro-3-methylphenol	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	4-Chloroaniline	420	310 U	310 UJ		ug/kg	I

Table of All Qualified Results

Test Method: SW8270 Extraction Method: SW3550								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW16-C-AUG2020	N	4-Chlorophenyl phenyl ether	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	4-Nitroaniline	1000	770 U	770 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	4-Nitrophenol	1000	770 U	770 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Acetophenone	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Benzaldehyde	420	310 UL	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Benzyl butyl phthalate	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Biphenyl (Diphenyl)	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Bis(2-chloroethoxy)methane	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Carbazole	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Cresols, m- & p-	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Dibenzofuran	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Diethyl phthalate	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Dimethyl phthalate	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Di-n-butyl phthalate	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	di-n-Octyl phthalate	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Hexachlorobenzene	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Hexachlorobutadiene	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Hexachlorocyclopentadiene	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Hexachloroethane	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Isophorone	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Nitrobenzene	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	N-Nitrosodi-n-propylamine	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	N-Nitrosodiphenylamine	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Pentachlorophenol	1000	770 U	770 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Phenol	420	310 U	310 UJ		ug/kg	I
NHFLA-MW16-C-AUG2020	N	Bis(2-ethylhexyl)phthalate	420	2500 BL	310 UJ		ug/kg	L/I
NHFLA-MW16-C-AUG2020	N	Atrazine	420	310 UL	310 UJ		ug/kg	C/I
NHFLA-MW16-C-AUG2020	N	Caprolactam	420	310 UL	310 UJ		ug/kg	C/I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method LYDKHN

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW16-A-AUG2020	N	Total Organic Carbon	760	35000	35000 J	35000	
NHFLA-MW16-B-AUG2020	N	Total Organic Carbon	1000	41000	41000 J	41000	
NHFLA-MW16-C-AUG2020	N	Total Organic Carbon	1200	14000	14000 J	14000	

Modified Qualifiers for test method SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW16-A-AUG2020	N	Chromium, Hexavalent	2.20	1.20 J	1.20 J	1.20 J	TR
NHFLA-MW16-B-AUG2020	N	Chromium, Hexavalent	1.10	0.470 J	0.470 J	0.470 J	TR
NHFLA-MW16-C-AUG2020	N	Chromium, Hexavalent	0.590	0.260 J	0.260 J	0.260 J	TR

Modified Qualifiers for test method SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB4-AUG2020	EB	1,2,4,5-Tetrachlorobenzene	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB4-AUG2020	EB	1,4-Dioxane (p-Dioxane)	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB4-AUG2020	EB	2,2'-Oxybis(1-chloropropane)	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB4-AUG2020	EB	2,4-Dinitrotoluene	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB4-AUG2020	EB	2,6-Dinitrotoluene	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB4-AUG2020	EB	2-Chloronaphthalene	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB4-AUG2020	EB	2-Nitroaniline	24.0	18.0 U	18.0 UJ	18.0 U	I
NHFLA-EB4-AUG2020	EB	3,3'-Dichlorobenzidine	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB4-AUG2020	EB	3-Nitroaniline	24.0	18.0 U	18.0 UJ	18.0 U	
NHFLA-EB4-AUG2020	EB	4-Bromophenyl phenyl ether	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB4-AUG2020	EB	4-Chloroaniline	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB4-AUG2020	EB	4-Chlorophenyl phenyl ether	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB4-AUG2020	EB	4-Nitroaniline	24.0	18.0 U	18.0 UJ	18.0 U	
NHFLA-EB4-AUG2020	EB	Acetophenone	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB4-AUG2020	EB	Atrazine	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB4-AUG2020	EB	Benzaldehyde	9.60	7.20 ULL	7.20 UJ	7.20 U	
NHFLA-EB4-AUG2020	EB	Benzyl butyl phthalate	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB4-AUG2020	EB	Biphenyl (Diphenyl)	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB4-AUG2020	EB	Bis(2-chloroethoxy)methane	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB4-AUG2020	EB	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB4-AUG2020	EB	Bis(2-ethylhexyl)phthalate	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB4-AUG2020	EB	Caprolactam	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB4-AUG2020	EB	Carbazole	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB4-AUG2020	EB	Dibenzofuran	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB4-AUG2020	EB	Diethyl phthalate	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB4-AUG2020	EB	Dimethyl phthalate	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB4-AUG2020	EB	Di-n-butyl phthalate	9.60	7.20 U	7.20 UJ	7.20 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB4-AUG2020	EB	di-n-Octyl phthalate	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB4-AUG2020	EB	Hexachlorobenzene	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB4-AUG2020	EB	Hexachlorobutadiene	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB4-AUG2020	EB	Hexachlorocyclopentadiene	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB4-AUG2020	EB	Hexachloroethane	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB4-AUG2020	EB	Isophorone	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB4-AUG2020	EB	Nitrobenzene	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB4-AUG2020	EB	N-Nitrosodi-n-propylamine	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB4-AUG2020	EB	N-Nitrosodiphenylamine	9.60	7.20 U	7.20 UJ	7.20 U	

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW16-A-AUG2020	N	Bis(2-ethylhexyl)phthalate	320	1900 BL	240 J	240 U	L/C
NHFLA-MW16-B-AUG2020	N	Bis(2-ethylhexyl)phthalate	360	2200 BL	270 J	270 U	L
NHFLA-MW16-C-AUG2020	N	Bis(2-ethylhexyl)phthalate	420	2500 BL	310 J	310 UJ	L/I

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Trace values are not included in the qualified results table unless additional reason codes are associated.

Automated Data Review Detail Report for SN7081
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Rejected Results

--No Records Found--

Automated Data Review Detail Report for SN7081
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
SW6010/SW3050/NONE	3	18
SW7196/SW3060/NONE	3	3
SW7471/METHOD/NONE	2	2
SW8260/SW5035/NONE	1	2
SW8270/SW3550/NONE	2	60

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-MW16-A-AUG2020	N	1	Antimony	0.450 U	0.0630	0.450	0.720	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW16-A-AUG2020	N	1	Arsenic	5.93	0.0610	0.450	0.720	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW16-A-AUG2020	N	1	Cadmium	0.270 U	0.00710	0.270	0.450	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW16-A-AUG2020	N	1	Cobalt	6.13	0.0260	0.360	0.890	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW16-A-AUG2020	N	1	Selenium	0.620 J	0.150	0.630	0.890	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW16-A-AUG2020	N	1	Thallium	0.140 J	0.0770	0.450	1.30	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW16-B-AUG2020	N	1	Antimony	0.480 U	0.0670	0.480	0.770	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW16-B-AUG2020	N	1	Arsenic	6.78	0.0660	0.480	0.770	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW16-B-AUG2020	N	1	Cadmium	0.480 U	0.00760	0.480	0.480	0.119999	mg/Kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-MW16-B-AUG2020	N	1	Cobalt	7.10	0.0280	0.380	0.960	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW16-B-AUG2020	N	1	Selenium	0.840 J	0.160	0.670	0.960	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW16-B-AUG2020	N	1	Thallium	0.480 U	0.0830	0.480	1.40	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW16-C-AUG2020	N	1	Antimony	0.610 U	0.0850	0.610	0.970	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW16-C-AUG2020	N	1	Arsenic	12.7	0.0830	0.610	0.970	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW16-C-AUG2020	N	1	Cadmium	1.41	0.00960	0.360	0.610	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW16-C-AUG2020	N	1	Cobalt	13.4	0.0350	0.480	1.20	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW16-C-AUG2020	N	1	Selenium	1.70	0.210	0.850	1.20	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW16-C-AUG2020	N	1	Thallium	0.990 J	0.100	0.610	1.80	0.016666	mg/Kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7196/SW3060/NONE	NHFLA-MW16-A-AUG2020	N	5	Chromium, Hexavalent	1.20 J	0.660	1.30	2.20	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-MW16-B-AUG2020	N	2.5	Chromium, Hexavalent	0.470 J	0.330	0.670	1.10	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-MW16-C-AUG2020	N	1.2	Chromium, Hexavalent	0.260 J	0.180	0.350	0.590	0.4	mg/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7471/METHOD/NONE	NHFLA-MW16-A-AUG2020	N	1	Mercury	0.0390	0.00530	0.0180	0.0340	0.033	mg/Kg
SW7471/METHOD/NONE	NHFLA-MW16-C-AUG2020	N	1	Mercury	0.0610	0.00640	0.0210	0.0410	0.033	mg/Kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8260/SW5035/NONE	NHFLA-MW16-C-AUG2020	N	1	1,2-Dibromo-3-chloropropane	2.60 U	1.60	2.60	5.20	5	ug/kg
SW8260/SW5035/NONE	NHFLA-MW16-C-AUG2020	N	1	Carbon disulfide	1.60 J	0.820	2.60	5.20	5	ug/kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW16-B-AUG2020	N	1	1,2,4,5-Tetrachlorobenzene	270 U	150	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-B-AUG2020	N	1	2,4-Dichlorophenol	270 U	160	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-B-AUG2020	N	1	2,4-Dimethylphenol	270 U	180	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-B-AUG2020	N	1	2,4-Dinitrophenol	670 U	410	670	900	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-B-AUG2020	N	1	2,6-Dinitrotoluene	270 U	86.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-B-AUG2020	N	1	2-Chlorophenol	270 U	180	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-B-AUG2020	N	1	2-Methylphenol (o-Cresol)	270 U	220	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-B-AUG2020	N	1	2-Nitroaniline	670 U	82.0	670	900	820	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW16-B-AUG2020	N	1	3,3'-Dichlorobenzidine	270 U	120	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-B-AUG2020	N	1	4,6-Dinitro-2-methylphenol	670 U	370	670	900	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-B-AUG2020	N	1	4-Chloroaniline	270 U	130	270	360	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-B-AUG2020	N	1	Atrazine	270 UJ	100	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-B-AUG2020	N	1	Benzyl butyl phthalate	270 U	100	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-B-AUG2020	N	1	Biphenyl (Diphenyl)	270 U	80.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-B-AUG2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	270 U	89.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-B-AUG2020	N	1	bis(2-Ethylhexyl) phthalate	270 U	110	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-B-AUG2020	N	1	Carbazole	270 U	120	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-B-AUG2020	N	1	Dibenzofuran	270 U	86.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-B-AUG2020	N	1	Diethyl phthalate	270 U	88.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-B-AUG2020	N	1	Dimethyl phthalate	270 U	85.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-B-AUG2020	N	1	Di-n-butyl phthalate	270 U	110	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-B-AUG2020	N	1	Di-n-octyl phthalate	270 U	230	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-B-AUG2020	N	1	Hexachlorobenzene	270 U	90.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-B-AUG2020	N	1	Hexachlorobutadiene	270 U	91.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-B-AUG2020	N	1	Hexachlorocyclopentadiene	270 U	90.0	270	360	330	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW16-B-AUG2020	N	1	Hexachloroethane	270 U	100	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-B-AUG2020	N	1	n-Nitrosodi-n-propylamine	270 U	91.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-B-AUG2020	N	1	n-Nitrosodiphenylamine	270 U	240	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-B-AUG2020	N	1	Pentachlorophenol	670 U	260	670	900	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-B-AUG2020	N	1	Phenol	270 U	170	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-C-AUG2020	N	1	1,2,4,5-Tetrachlorobenzene	310 UJ	170	310	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-C-AUG2020	N	1	2,4-Dichlorophenol	310 UJ	190	310	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-C-AUG2020	N	1	2,4-Dimethylphenol	310 UJ	210	310	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-C-AUG2020	N	1	2,4-Dinitrophenol	770 UJ	470	770	1000	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-C-AUG2020	N	1	2,6-Dinitrotoluene	310 UJ	99.0	310	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-C-AUG2020	N	1	2-Chlorophenol	310 UJ	210	310	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-C-AUG2020	N	1	2-Methylphenol (o-Cresol)	310 UJ	250	310	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-C-AUG2020	N	1	2-Nitroaniline	770 UJ	94.0	770	1000	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-C-AUG2020	N	1	3,3'-Dichlorobenzidine	310 UJ	140	310	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-C-AUG2020	N	1	4,6-Dinitro-2-methylphenol	770 UJ	420	770	1000	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-C-AUG2020	N	1	4-Chloroaniline	310 UJ	150	310	420	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-C-AUG2020	N	1	Atrazine	310 UJ	110	310	420	330	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW16-C-AUG2020	N	1	Benzyl butyl phthalate	310 UJ	120	310	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-C-AUG2020	N	1	Biphenyl (Diphenyl)	310 UJ	92.0	310	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-C-AUG2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	310 UJ	100	310	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-C-AUG2020	N	1	bis(2-Ethylhexyl) phthalate	310 UJ	120	310	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-C-AUG2020	N	1	Carbazole	310 UJ	140	310	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-C-AUG2020	N	1	Dibenzofuran	310 UJ	99.0	310	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-C-AUG2020	N	1	Diethyl phthalate	310 UJ	100	310	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-C-AUG2020	N	1	Dimethyl phthalate	310 UJ	98.0	310	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-C-AUG2020	N	1	Di-n-butyl phthalate	310 UJ	130	310	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-C-AUG2020	N	1	Di-n-octyl phthalate	310 UJ	260	310	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-C-AUG2020	N	1	Hexachlorobenzene	310 UJ	100	310	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-C-AUG2020	N	1	Hexachlorobutadiene	310 UJ	100	310	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-C-AUG2020	N	1	Hexachlorocyclopentadiene	310 UJ	100	310	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-C-AUG2020	N	1	Hexachloroethane	310 UJ	120	310	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-C-AUG2020	N	1	n-Nitrosodi-n-propylamine	310 UJ	100	310	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-C-AUG2020	N	1	n-Nitrosodiphenylamine	310 UJ	280	310	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW16-C-AUG2020	N	1	Pentachlorophenol	770 UJ	300	770	1000	820	ug/kg

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Automated Data Review Detail Report for SN7081
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW16-C-AUG2020	N	1	Phenol	310 UJ	200	310	420	330	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
C	LCS Recovery
H1	Test Hold Time
H2	Prep Hold Time
I	Surrogate recovery outside project limits.
L	Lab Blank
T	Trip Blank
TR	Trace Level Detect
V	Equipment Blank

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: BNASIM (GC/MS-SIM Analysis by SW8270)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			Method blank WG284898-1RA had one of three surrogates outside of project criteria biased low. Qualifications were not applied based on this QC surrogate recovery outlier.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG284983-1 (pyrene and chrysene) and WG285191-1 (benzo(a)anthracene) detections below the LOQ did not result in qualification of field data. QC batch WG284898-1 detections below LOQ for indenot(123cd)pyrene and benzo (ghi)perylene resulted in qualification of these analyte results for sample -003 with U/L flags (non-detect at LOQ).
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch WG285191-2 low bias for benzo (b)fluoranthene did not require qualification for final field data reported in database. QC batch WG284898-2 low bias recoveries for anthracene and benzo(a)pyrene resulted in qualification for these analytes in samples -001, -002 and -003 as estimated with J/C qualifiers.
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Internal standard and calibration outliers noted in case narrative were not addressed in this stage 2A deliverable.
Were DoD QSM corrective actions followed if deviations were noted?		•		See case narrative for calibration issues.
Were any data rejected during the verification process?		•		

Review Questions

Method: LYDKHN (Lloyd Kahn Method for the Determination of Total Organic Carbon in Sediment, USEPA Region II Method)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			Hold time outliers in data base were removed. Project hold time for soils is 14 days and field samples in this submittal were analyzed in 5 days from sample collection.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW6010 (Trace Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch NH27ICS1 method blank had detections below the LOD for aluminum, antimony, arsenic, cadmium, calcium chromium, iron, magnesium, potassium, sodium. Client samples -01, -02, -03 antimony results were qualified as non-detect at the LOD with U/L flags based on method blank detections. Cadmium results were qualified as non-detect at the LOD in sample -002 and non-detect at the LOQ in sample -002 with U/L flag/reason codes.
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW6020 (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch NH28IMW2 method blank had detections below the LOQ for aluminum, copper, magnesium, sodium. Client sample -004 was qualified as non-detect at the LOD for all of these metals and flagged U/L based on the prep blank detections.
Were target analytes in the field blank less than MDL?		•		
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7196 (Chromium, Hexavalent (Colorimetric))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			Hold time qualifiers for samples -001, -002, -003 were removed since all analytical hold times were within project hold time criteria for soils.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG284995 method blank had a detection below the LOQ. Field sample -004 result was qualified as non-detect at the LOD with a U/L flag/reason code.
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		Project QAPP MS soluble and insoluble pre-digestion MS requirements were not both met. Only one MS reported
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7470 (Mercury in Liquid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7471 (Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW8260 (Volatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Surrogate recoveries were biased high for 2 of 4 surrogates in client samples -001 and -004. All detections for these samples were qualified as estimated with J/I/+ flags. Non-detects did not require qualification. Sample -005 had 1 of 4 surrogates biased high but associated results were all non-detect so qualifications were not required.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG284885 method blank had a detection below the LOQ for methylene chloride. Client sample -005 results for this analyte were considered non-detect at the LOQ and qualified with U/L flags.
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Internal standard outlier issues noted in case narrative were not addressed as part of this stage 2A validation review.
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data rejected during the verification process?		•		

Review Questions

Method: SW8270 (Semivolatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Samples -001, -002, -003 final results were reported from re-analysis data. Only sample -003RE had a surrogate outlier - 1 of 3 base-neutral fraction surrogates biased low. Client sample -003 base-neutral fraction analytes were qualified as estimated with UJ/I flags if non-detect and J/I flags if detected. The original analyses for each had multiple surrogate recovery outliers. Client sample -004 had 1 of 3 acid fraction surrogate recoveries outside of project criteria biased low so all acid fraction analytes for this sample were qualified as estimated with UJ/I flags. Revision of qualifiers in data base were made based on fractions not affected by surrogate non-conformances.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch method blanks WG284899-1 and WG285192-1 had detections below the LOQ for bis-2-ethylhexylphthalate. Qualifications of non-detect at the LOQ with U/L flags were made for this analyte in samples -001, -002, -003. NOTE: QC batch WB284899-1 also had 6 of 6 surrogate recoveries outside of project criteria biased low. - this blank was not used to qualify final reportable field sample data.
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch LCS recoveries were outliers as follows: WG284899-2: low bias - 4-chloroaniline, 3-nitroaniline and biased high for benzaldehyde and bis-2-ethylhexylphthalate (this batch was not used to qualify final reportable results). WB285183-2: low bias less than 10% recovery - caprolactam and high bias benzaldehyde (this batch was not used to qualify final reportable results). WG285192-2 : low bias for caprolactam and atrazine and high bias for benzaldehyde, 3,3-dichlorobenzidien and bis-2-ethylhexylphthalate. Client samples -001, -002, -003 results for caprolactam and atrazine were qualified estimated with UJ/C flags. No qualification was required based on the high bias QC outliers.
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	

Review Questions

Method: SW8270 (Semivolatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Internal standard outlier issues noted in case narrative were not addressed as part of this stage 2A validation review.
Were DoD QSM corrective actions followed if deviations were noted?		•		WRT Cal issue CA's could not be confirmed.
Were any data rejected during the verification process?		•		

Review Questions

Method: SW9045 (Soil pH)

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?		•		
Were target analytes in the method blank less than MDL?			•	
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	SN7117
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Katahdin Analytical Services, Westbrook, ME
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	December 11, 2020 - Revision submitted January 25, 2021 based on DoD chemist review recommendations.

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	BNASIM	LYDKHN	SW6010	SW6020	SW7196	SW7470	SW7471	SW8260	SW8270	SW9045
NHFLA-MW2-A-AUG2020	SN7117-1	Solid	Field Sample/N	X	X	X		X		X	X	X	X
NHFLA-MW2-B-AUG2020	SN7117-2	Solid	Field Sample/N	X	X	X		X		X	X	X	
NHFLA-EB5-AUG2020	SN7117-3	Water	Equipment Blank/EB	X			X	X	X		X	X	
NHFLA-TB5-AUG2020	SN7117-4	Water	Trip Blank/TB								X		

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Katahdin Analytical Services, Westbrook, ME and were reported under sample delivery group (SDG) SN7117. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Extracted Internal Standard
- Lab Blank
- Lab Replicate RPD
- LCS Recovery
- LCS RPD
- MS Recovery
- Prep Hold Time
- Surrogate
- Test Hold Time
- Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 25 results (5.21%) out of the 480 results (sample and field QC samples) reported are qualified based on review and 0 results (0.00%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Hydrazine field sample results and QC are included in this SDG but electronic data is in separate SDG (12373-1). Please reference validation report 12373-1 for data qualification summary.

Analytical Method	Data Reviewer Comment
BNASIM	No additional comments; see Checklist for detail.
LYDKHN	No additional comments; see Checklist for detail.
SW6010	No additional comments; see Checklist for detail.
SW6020	No additional comments; see Checklist for detail.
SW7196	No additional comments; see Checklist for detail.
SW7470	No additional comments; see Checklist for detail.
SW7471	No additional comments; see Checklist for detail.
SW8260	No additional comments; see Checklist for detail.
SW8270	No additional comments; see Checklist for detail.
SW9045	No additional comments; see Checklist for detail.

Jim Tomalia

January 25 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method BNASIM, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB5-AUG2020 (EB)/ SN7117-3	Pyrene	0.06900	< 0.056	< 0.19	ug/l	U/None	V	
NHFLA-EB5-AUG2020 (EB)/ SN7117-3	Chrysene	0.08300	< 0.034	< 0.19	ug/l	U/None	V	
NHFLA-EB5-AUG2020 (EB)/ SN7117-3	Benzo (b)fluoranthene	0.1200	< 0.084	< 0.19	ug/l	U/None	V	
NHFLA-EB5-AUG2020 (EB)/ SN7117-3	Indeno(1,2,3-c,d)pyrene	0.1300	< 0.049	< 0.19	ug/l	U/None	V	
NHFLA-EB5-AUG2020 (EB)/ SN7117-3	Benzo (g,h,i)perylene	0.1300	< 0.061	< 0.19	ug/l	U/None	V	
NHFLA-EB5-AUG2020 (EB)/ SN7117-3	Benzo(a)pyrene	0.1400	< 0.062	< 0.19	ug/l	U/None	V	
NHFLA-EB5-AUG2020 (EB)/ SN7117-3	Benzo (k)fluoranthene	0.2200	< 0.046	< 0.19	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method BNASIM, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285105-1 (LB)/ WG285105-1	Chrysene	0.04300	< 0.036	< 0.2	ug/l	U/None	L	
WG285105-1 (LB)/ WG285105-1	Indeno(1,2,3-c,d)pyrene	0.05600	< 0.052	< 0.2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB5-AUG2020	EB	Chrysene	0.190	0.0830 J	0.0940 U		ug/l	L
NHFLA-EB5-AUG2020	EB	Indeno(1,2,3-c,d)pyrene	0.190	0.130 J	0.190 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method BNASIM, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285101-1 (LB)/ WG285101-1	Indeno(1,2,3-c,d)pyrene	3.200	< 1.9	< 20	ug/kg	U/None	L	
WG285101-1 (LB)/ WG285101-1	Benzo (g,h,i)perylene	3.500	< 2	< 20	ug/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW2-A-AUG2020	N	Benzo(g,h,i)perylene	24.0	19.0 J	24.0 U		ug/kg	L
NHFLA-MW2-A-AUG2020	N	Indeno(1,2,3-c,d)pyrene	24.0	19.0 J	24.0 U		ug/kg	L
NHFLA-MW2-B-AUG2020	N	Benzo(g,h,i)perylene	23.0	5.90 J	11.0 U		ug/kg	L
NHFLA-MW2-B-AUG2020	N	Indeno(1,2,3-c,d)pyrene	23.0	5.60 J	11.0 U		ug/kg	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method BNASIM, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB5-AUG2020 (EB)/ SN7117-3	2-Methylnaphthalene-d10	115.0	43 - 92	10 - 92	percent	J/None	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB5-AUG2020	EB	Benzo(a)pyrene	0.190	0.140 J	0.140 J	+	ug/l	I/TR
NHFLA-EB5-AUG2020	EB	Benzo(b)fluoranthene	0.190	0.120 J	0.120 J	+	ug/l	I/TR
NHFLA-EB5-AUG2020	EB	Benzo(g,h,i)perylene	0.190	0.130 J	0.130 J	+	ug/l	I/TR
NHFLA-EB5-AUG2020	EB	Benzo(k)fluoranthene	0.190	0.220	0.220 J	+	ug/l	I
NHFLA-EB5-AUG2020	EB	Pyrene	0.190	0.0690 J	0.0690 J	+	ug/l	I/TR

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method LYDKHN, Prep Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of extraction found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW2-A-AUG2020 (N)/ SN7117-1		9.070	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW2-A-AUG2020 (N)/ WG285582-3		9.070	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW2-A-AUG2020 (N)/ WG285582-4		9.070	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW2-B-AUG2020 (N)/ SN7117-2		9.070	< 0	< 0	days	J/X	H2	Prep Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6010, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBSNH26ICS1 (LB)/ PBSNH26ICS1	Antimony	0.08400	< 0.07	< 0.8	mg/kg	U/None	L	
PBSNH26ICS1 (LB)/ PBSNH26ICS1	Zinc	0.2100	< 0.17	< 2	mg/kg	U/None	L	
PBSNH26ICS1 (LB)/ PBSNH26ICS1	Magnesium	0.7400	< 0.68	< 10	mg/kg	U/None	L	
PBSNH26ICS1 (LB)/ PBSNH26ICS1	Sodium	3.200	< 1.5	< 100	mg/kg	U/None	L	
PBSNH26ICS1 (LB)/ PBSNH26ICS1	Potassium	6.700	< 2.9	< 100	mg/kg	U/None	L	
PBSNH26ICS1 (LB)/ PBSNH26ICS1	Chromium	0.1500	< 0.026	< 1	mg/kg	U/None	L	
PBSNH26ICS1 (LB)/ PBSNH26ICS1	Lead	1.010	< 0.087	< 0.5	mg/kg	U/None	L	
PBSNH26ICS1 (LB)/ PBSNH26ICS1	Aluminum	2.400	< 0.71	< 30	mg/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW2-A-AUG2020	N	Antimony	1.90	0.760 J	1.20 U		mg/kg	L
NHFLA-MW2-B-AUG2020	N	Antimony	1.70	0.430 J	1.10 U		mg/kg	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB5-AUG2020 (EB)/ SN7117-3	Cobalt	0.07200	< 0.06	< 1	ug/l	U/None	V	
NHFLA-EB5-AUG2020 (EB)/ SN7117-3	Nickel	0.2800	< 0.15	< 2	ug/l	U/None	V	
NHFLA-EB5-AUG2020 (EB)/ SN7117-3	Lead	0.3700	< 0.075	< 1	ug/l	U/None	V	
NHFLA-EB5-AUG2020 (EB)/ SN7117-3	Chromium	0.5300	< 0.22	< 5	ug/l	U/None	V	
NHFLA-EB5-AUG2020 (EB)/ SN7117-3	Vanadium	0.6000	< 0.5	< 5	ug/l	U/None	V	
NHFLA-EB5-AUG2020 (EB)/ SN7117-3	Barium	1.100	< 0.27	< 2	ug/l	U/None	V	
NHFLA-EB5-AUG2020 (EB)/ SN7117-3	Copper	1.800	< 0.19	< 3	ug/l	U/None	V	
NHFLA-EB5-AUG2020 (EB)/ SN7117-3	Potassium	100.0	< 31	< 1000	ug/l	U/None	V	
NHFLA-EB5-AUG2020 (EB)/ SN7117-3	Aluminum	129.0	< 4.4	< 100	ug/l	U/None	V	
NHFLA-EB5-AUG2020 (EB)/ SN7117-3	Iron	301.0	< 13	< 100	ug/l	U/None	V	
NHFLA-EB5-AUG2020 (EB)/ SN7117-3	Manganese	4.380	< 0.35	< 2	ug/l	U/None	V	
NHFLA-EB5-AUG2020 (EB)/ SN7117-3	Sodium	485.0	< 19	< 1000	ug/l	U/None	V	
NHFLA-EB5-AUG2020 (EB)/ SN7117-3	Calcium	514.0	< 21	< 100	ug/l	U/None	V	
NHFLA-EB5-AUG2020 (EB)/ SN7117-3	Magnesium	89.10	< 8	< 100	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNH26IMW1 (LB)/ PBWNH26IMW1	Lead	0.1900	< 0.074	< 1	ug/l	U/None	L	
PBWNH26IMW1 (LB)/ PBWNH26IMW1	Copper	1.200	< 0.18	< 3	ug/l	U/None	L	
PBWNH26IMW1 (LB)/ PBWNH26IMW1	Aluminum	11.00	< 4.4	< 100	ug/l	U/None	L	
PBWNH26IMW1 (LB)/ PBWNH26IMW1	Sodium	324.0	< 19	< 1000	ug/l	U/None	L	
PBWNH26IMW1 (LB)/ PBWNH26IMW1	Potassium	38.00	< 31	< 1000	ug/l	U/None	L	
PBWNH26IMW1 (LB)/ PBWNH26IMW1	Magnesium	39.00	< 7.8	< 100	ug/l	U/None	L	
PBWNH26IMW1 (LB)/ PBWNH26IMW1	Calcium	68.00	< 20	< 100	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB5-AUG2020	EB	Copper	3.00	1.80 J	2.00 U		ug/l	L
NHFLA-EB5-AUG2020	EB	Lead	1.00	0.370 J	0.500 U		ug/l	L
NHFLA-EB5-AUG2020	EB	Magnesium	100	89.1 J	100 U		ug/l	L
NHFLA-EB5-AUG2020	EB	Potassium	1000	100 J	400 U		ug/l	L
NHFLA-EB5-AUG2020	EB	Sodium	1000	485 J	1000 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW2-A-AUG2020 (N)/ SN7117-1		10.21	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-MW2-B-AUG2020 (N)/ SN7117-2		10.19	< 1	< 2	days	J/X	H1	Test Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB5-AUG2020 (EB)/ SN7117-3	Methylene chloride	1.800	< 1.1	< 5	ug/l	U/None	V	
NHFLA-EB5-AUG2020 (EB)/ SN7117-3	Acetone	2.300	< 2.2	< 5	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG284976-2 (LB)/ WG284976-2	Methylene chloride	2.100	< 1.1	< 5	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB5-AUG2020	EB	Methylene chloride	5.00	1.80 J	2.50 U		ug/l	L
NHFLA-TB5-AUG2020	TB	Methylene chloride	5.00	2.60 J	5.00 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285867-2 (LB)/ WG285867-2	Methylene chloride	11.00	< 7.9	< 25	ug/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW2-A-AUG2020 (N)/ SN7117-1	1,2-Dichloroethane-d4	140.0	71 - 136	10 - 136	percent	J/None	I	
NHFLA-MW2-B-AUG2020 (N)/ SN7117-2	1,2-Dichloroethane-d4	141.0	71 - 136	10 - 136	percent	J/None	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Trip Blank

The purpose of trip blanks is to determine the existence and magnitude of cross-contamination problems resulting from the shipping of samples. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in trip blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-TB5-AUG2020 (TB)/ SN7117-4	Methylene chloride	2.600	< 1.1	< 5	ug/l	U/None	T	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Trip Blank for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW2-A-AUG2020	N	Methylene chloride	27.0	11.0 J	14.0 U		ug/kg	T
NHFLA-MW2-B-AUG2020	N	Methylene chloride	23.0	8.50 J	12.0 U		ug/kg	T

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285102-1 (LB)/ WG285102-1	Bis(2-ethylhexyl)phthalate	260.0	< 98	< 330	ug/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285104-2 (BS)/ WG285104-2	Benzaldehyde	390.0	10 - 189	10 - 189	percent	J/None	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285102-2 (BS)/ WG285102-2	Caprolactam	31.98	46 - 117	10 - 117	percent	J/UJ	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW2-A-AUG2020	N	Caprolactam	400	300 UL	300 UJ		ug/kg	C
NHFLA-MW2-B-AUG2020	N	Caprolactam	380	280 UL	280 UJ		ug/kg	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Table of All Qualified Results

Test Method: BNASIM	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB5-AUG2020	EB	Benzo(a)pyrene	0.190	0.140 J	0.140 J	+	ug/l	I/TR
NHFLA-EB5-AUG2020	EB	Benzo(b)fluoranthene	0.190	0.120 J	0.120 J	+	ug/l	I/TR
NHFLA-EB5-AUG2020	EB	Benzo(g,h,i)perylene	0.190	0.130 J	0.130 J	+	ug/l	I/TR
NHFLA-EB5-AUG2020	EB	Benzo(k)fluoranthene	0.190	0.220	0.220 J	+	ug/l	I
NHFLA-EB5-AUG2020	EB	Pyrene	0.190	0.0690 J	0.0690 J	+	ug/l	I/TR
NHFLA-EB5-AUG2020	EB	Chrysene	0.190	0.0830 J	0.0940 U		ug/l	L
NHFLA-EB5-AUG2020	EB	Indeno(1,2,3-c,d)pyrene	0.190	0.130 J	0.190 U		ug/l	L

Test Method: BNASIM	Extraction Method: SW3550							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW2-A-AUG2020	N	Benzo(g,h,i)perylene	24.0	19.0 J	24.0 U		ug/kg	L
NHFLA-MW2-A-AUG2020	N	Indeno(1,2,3-c,d)pyrene	24.0	19.0 J	24.0 U		ug/kg	L
NHFLA-MW2-B-AUG2020	N	Benzo(g,h,i)perylene	23.0	5.90 J	11.0 U		ug/kg	L
NHFLA-MW2-B-AUG2020	N	Indeno(1,2,3-c,d)pyrene	23.0	5.60 J	11.0 U		ug/kg	L

Test Method: SW6010	Extraction Method: SW3050							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW2-A-AUG2020	N	Antimony	1.90	0.760 J	1.20 U		mg/kg	L
NHFLA-MW2-B-AUG2020	N	Antimony	1.70	0.430 J	1.10 U		mg/kg	L

Test Method: SW6020	Extraction Method: SW3010							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB5-AUG2020	EB	Copper	3.00	1.80 J	2.00 U		ug/l	L
NHFLA-EB5-AUG2020	EB	Lead	1.00	0.370 J	0.500 U		ug/l	L
NHFLA-EB5-AUG2020	EB	Magnesium	100	89.1 J	100 U		ug/l	L
NHFLA-EB5-AUG2020	EB	Potassium	1000	100 J	400 U		ug/l	L
NHFLA-EB5-AUG2020	EB	Sodium	1000	485 J	1000 U		ug/l	L

Test Method: SW8260	Extraction Method: SW5030							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB5-AUG2020	EB	Methylene chloride	5.00	1.80 J	2.50 U		ug/l	L
NHFLA-TB5-AUG2020	TB	Methylene chloride	5.00	2.60 J	5.00 U		ug/l	L

Test Method: SW8260	Extraction Method: SW5030							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW2-A-AUG2020	N	Methylene chloride	27.0	11.0 J	14.0 U		ug/kg	T
NHFLA-MW2-B-AUG2020	N	Methylene chloride	23.0	8.50 J	12.0 U		ug/kg	T

Test Method: SW8270	Extraction Method: SW3550							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW2-A-AUG2020	N	Caprolactam	400	300 UL	300 UJ		ug/kg	C

Table of All Qualified Results

Test Method: SW8270 Extraction Method: SW3550								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW2-B-AUG2020	N	Caprolactam	380	280 UL	280 UJ		ug/kg	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method LYDKHN

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW2-A-AUG2020	N	Total Organic Carbon	1200	24000	24000 J	24000 J	M
NHFLA-MW2-B-AUG2020	N	Total Organic Carbon	970	21000	21000 J	21000	

Modified Qualifiers for test method SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW2-A-AUG2020	N	Chromium, Hexavalent	0.620	0.370 U	0.370 X	0.370 U	
NHFLA-MW2-B-AUG2020	N	Chromium, Hexavalent	0.600	0.610	0.610 J	0.610	

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW2-A-AUG2020	N	Methylene chloride	27.0	11.0 J	14.0 J	14.0 U	T
NHFLA-MW2-B-AUG2020	N	Methylene chloride	23.0	8.50 J	12.0 J	12.0 U	T

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Automated Data Review Detail Report for SN7117
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Rejected Results

--No Records Found--

Automated Data Review Detail Report for SN7117
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
SW6010/SW3050/NONE	2	14
SW7196/SW3060/NONE	2	2
SW7471/METHOD/NONE	1	1
SW8260/SW5035/NONE	1	4
SW8270/SW3550/NONE	2	60

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-MW2-A-AUG2020	N	2	Antimony	1.20 U	0.160	1.20	1.90	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW2-A-AUG2020	N	2	Arsenic	16.1	0.160	1.20	1.90	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW2-A-AUG2020	N	2	Cadmium	0.130 J	0.0180	0.700	1.20	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW2-A-AUG2020	N	2	Cobalt	24.7	0.0680	0.930	2.30	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW2-A-AUG2020	N	2	Selenium	2.20 J	0.400	1.60	2.30	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW2-A-AUG2020	N	2	Silver	1.51 J	0.0630	0.930	2.30	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW2-A-AUG2020	N	2	Thallium	1.90 J	0.200	1.20	3.50	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW2-B-AUG2020	N	2	Antimony	1.10 U	0.150	1.10	1.70	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW2-B-AUG2020	N	2	Arsenic	15.8	0.150	1.10	1.70	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW2-B-AUG2020	N	2	Cadmium	0.650 U	0.0170	0.650	1.10	0.119999	mg/Kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-MW2-B-AUG2020	N	2	Cobalt	4.54	0.0630	0.860	2.20	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW2-B-AUG2020	N	2	Selenium	2.60	0.370	1.50	2.20	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW2-B-AUG2020	N	2	Silver	1.46 J	0.0580	0.860	2.20	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW2-B-AUG2020	N	2	Thallium	1.70 J	0.190	1.10	3.20	0.016666	mg/Kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7196/SW3060/NONE	NHFLA-MW2-A-AUG2020	N	1.2	Chromium, Hexavalent	0.370 U	0.180	0.370	0.620	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-MW2-B-AUG2020	N	1.2	Chromium, Hexavalent	0.610	0.180	0.360	0.600	0.4	mg/kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7471/METHOD/NONE	NHFLA-MW2-A-AUG2020	N	1	Mercury	0.0756	0.00600	0.0200	0.0380	0.033	mg/Kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8260/SW5035/NONE	NHFLA-MW2-A-AUG2020	N	1	1,2-Dibromo-3-chloropropane	2.70 U	1.60	2.70	5.50	5	ug/kg
SW8260/SW5035/NONE	NHFLA-MW2-A-AUG2020	N	1	Bromomethane	5.50 U	1.20	5.50	11.0	10	ug/kg
SW8260/SW5035/NONE	NHFLA-MW2-A-AUG2020	N	1	Carbon disulfide	2.70 U	0.850	2.70	5.50	5	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8260/SW5035/NONE	NHFLA-MW2-A-AUG2020	N	1	Vinyl chloride	5.50 U	0.950	5.50	11.0	10	ug/kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW2-A-AUG2020	N	1	1,2,4,5-Tetrachlorobenzene	300 U	160	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-A-AUG2020	N	1	2,4-Dichlorophenol	300 U	180	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-A-AUG2020	N	1	2,4-Dimethylphenol	300 U	200	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-A-AUG2020	N	1	2,4-Dinitrophenol	750 U	460	750	1000	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-A-AUG2020	N	1	2,6-Dinitrotoluene	300 U	96.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-A-AUG2020	N	1	2-Chlorophenol	300 U	200	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-A-AUG2020	N	1	2-Methylphenol (o-Cresol)	300 U	240	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-A-AUG2020	N	1	2-Nitroaniline	750 U	91.0	750	1000	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-A-AUG2020	N	1	3,3'-Dichlorobenzidine	300 U	140	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-A-AUG2020	N	1	4,6-Dinitro-2-methylphenol	750 U	410	750	1000	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-A-AUG2020	N	1	4-Chloroaniline	300 U	140	300	400	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-A-AUG2020	N	1	Atrazine	300 U	110	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-A-AUG2020	N	1	Benzyl butyl phthalate	300 U	110	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-A-AUG2020	N	1	Biphenyl (Diphenyl)	300 U	89.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-A-AUG2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	300 U	98.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-A-AUG2020	N	1	bis(2-Ethylhexyl) phthalate	1800	120	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-A-AUG2020	N	1	Carbazole	300 U	130	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-A-AUG2020	N	1	Dibenzofuran	300 U	96.0	300	400	330	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW2-A-AUG2020	N	1	Diethyl phthalate	300 U	97.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-A-AUG2020	N	1	Dimethyl phthalate	300 U	95.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-A-AUG2020	N	1	Di-n-butyl phthalate	300 U	120	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-A-AUG2020	N	1	Di-n-octyl phthalate	300 U	260	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-A-AUG2020	N	1	Hexachlorobenzene	300 U	100	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-A-AUG2020	N	1	Hexachlorobutadiene	300 U	100	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-A-AUG2020	N	1	Hexachlorocyclopentadiene	300 U	100	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-A-AUG2020	N	1	Hexachloroethane	300 U	120	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-A-AUG2020	N	1	n-Nitrosodi-n-propylamine	300 U	100	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-A-AUG2020	N	1	n-Nitrosodiphenylamine	300 U	260	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-A-AUG2020	N	1	Pentachlorophenol	750 U	290	750	1000	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-A-AUG2020	N	1	Phenol	300 U	190	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-B-AUG2020	N	1	1,2,4,5-Tetrachlorobenzene	280 U	150	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-B-AUG2020	N	1	2,4-Dichlorophenol	280 U	170	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-B-AUG2020	N	1	2,4-Dimethylphenol	280 U	190	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-B-AUG2020	N	1	2,4-Dinitrophenol	700 U	430	700	940	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-B-AUG2020	N	1	2,6-Dinitrotoluene	280 U	91.0	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-B-AUG2020	N	1	2-Chlorophenol	280 U	190	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-B-AUG2020	N	1	2-Methylphenol (o-Cresol)	280 U	230	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-B-AUG2020	N	1	2-Nitroaniline	700 U	86.0	700	940	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-B-AUG2020	N	1	3,3'-Dichlorobenzidine	280 U	130	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-B-AUG2020	N	1	4,6-Dinitro-2-methylphenol	700 U	390	700	940	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-B-AUG2020	N	1	4-Chloroaniline	280 U	140	280	380	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-B-AUG2020	N	1	Atrazine	280 U	100	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-B-AUG2020	N	1	Benzyl butyl phthalate	280 U	110	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-B-AUG2020	N	1	Biphenyl (Diphenyl)	280 U	84.0	280	380	330	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW2-B-AUG2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	280 U	93.0	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-B-AUG2020	N	1	bis(2-Ethylhexyl) phthalate	1600	110	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-B-AUG2020	N	1	Carbazole	280 U	130	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-B-AUG2020	N	1	Dibenzofuran	280 U	91.0	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-B-AUG2020	N	1	Diethyl phthalate	280 U	92.0	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-B-AUG2020	N	1	Dimethyl phthalate	280 U	89.0	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-B-AUG2020	N	1	Di-n-butyl phthalate	280 U	120	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-B-AUG2020	N	1	Di-n-octyl phthalate	280 U	240	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-B-AUG2020	N	1	Hexachlorobenzene	280 U	94.0	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-B-AUG2020	N	1	Hexachlorobutadiene	280 U	95.0	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-B-AUG2020	N	1	Hexachlorocyclopentadiene	280 U	94.0	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-B-AUG2020	N	1	Hexachloroethane	280 U	110	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-B-AUG2020	N	1	n-Nitrosodi-n-propylamine	280 U	95.0	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-B-AUG2020	N	1	n-Nitrosodiphenylamine	280 U	250	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-B-AUG2020	N	1	Pentachlorophenol	700 U	270	700	940	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW2-B-AUG2020	N	1	Phenol	280 U	180	280	380	330	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
C	LCS Recovery
H1	Test Hold Time
H2	Prep Hold Time
I	Surrogate recovery outside project limits.
L	Lab Blank
M	MS Recovery
T	Trip Blank
TR	Trace Level Detect
V	Equipment Blank

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: BNASIM (GC/MS-SIM Analysis by SW8270)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Method blank and LCS for QC batch WG285105 had one of three surrogates outside of project criteria biased high. Qualifications were not applied based on this QC surrogate recovery outlier. Sample -003 had 1 of 3 surrogates biased high so all detected analyte results are considered estimated and flagged J.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG285101-1 had detections below the LOQ for indeno(123cd)pyrene and benzo (ghi)perylene and QC batch WG285105-1 detections below the LOD for chrysene and indeno(123cd)pyrene. Client sample -003 results for chrysene and indeno(123cd)pyrene were qualified as non-detect at the LOD with U flags and samples -001 and -002 indeno (123cd)pyrene and benzo(ghi)perylene qualified as non-detect at the LOD and qualified with U flags.
Were target analytes in the field blank less than MDL?		•		Equipment blank detections were not used to qualify soil field sample detections.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: LYDKHN (Lloyd Kahn Method for the Determination of Total Organic Carbon in Sediment, USEPA Region II Method)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			note: Qualifiers J/H2 assigned to all samples in database were removed since test hold time was not exceeded (8 days vs 14 days recommended in project QAPP).
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -001 MS was an outlier biased low (74%) so field result was qualified as estimated with a J flag.
Was the MS/MSD RPD within project acceptance limits?			•	MS only analyzed.
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW6010 (Trace Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch PBSNH26ICS1 for aluminum, antimony, chromium, lead (above LOQ), magnesium, potassium, sodium, zinc. Client samples -01, -02 antimony results were qualified as non-detect at the LOD with U/L flags based on method blank detections.
Were target analytes in the field blank less than MDL?		•		Equipment blank detections were not used to qualify soil field sample detections.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW6020 (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch NH26IMW1 method blank had detections below the LOQ for aluminum,calcium, copper, lead, magnesium, potassium, sodium. Client sample-003 results were qualified as non-detect at the LOQ for magnesium, sodium and non-detect at the LOD for copper, lead, potassium and flagged U/L based on the prep blank detections.
Were target analytes in the field blank less than MDL?	•			Equipment blank detections were not used to qualify soil field samples.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7196 (Chromium, Hexavalent (Colorimetric))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			J/H1 flags were removed for soil samples since they were all tested within the project require holding time of 28 days (actual 10 days).
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		Project QAPP MS soluble and insoluble predigestion MS requirements were not both met. Only one MS reported.
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7470 (Mercury in Liquid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7471 (Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW8260 (Volatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?		•		Re-analysis results for -01RA and -002RA which were extracted outside of project required holding times were not reported in the SEDD.
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Surrogate recoveries were biased high for 1 of 4 surrogates in client samples -001 and -002 (-001RA and -002RA recoveries acceptable). All detections for these samples were qualified as estimated with J/I/+ flags. Non-detects did not require qualification
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG284976-2 and WG285867-2 had detections below the LOQ for methylene chloride. Client samples -001RA, -002RA, -003 and -004 results for methylene chloride were qualified as non-detect at the LOQ with U flags and L reason codes.
Were target analytes in the field blank less than MDL?		•		Trip blank had a detection for methylene chloride that was used to qualify samples -001 and -002 methylene chloride results as non-detect at the LOQ and were qualified with U flags and T reason codes. Equipment blank had detections below the LOQ for methylene chloride (qualified non-detect) and acetone. Qualifications were not applied based on these equipment blank detections.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Internal standard and calibration outlier issues noted in casenarrative were not addressed as part of thisstage 2A validation review.
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data rejected during the verification process?		•		

Review Questions

Method: SW8270 (Semivolatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG285102-1 method blank had a detection below the LOQ for bis-2-ethylhexylphthalate. Qualifications were not required based on this method blank detection.
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch WG285104-2 recoveries were outliers biased high for benzaldehyde - qualification was not required. QC batch WG285102-2 recovery was biased low for caprolactam - field samples -001 and -002 results for this analyte were qualified as estimated with UJ flags and C reason codes.
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW9045 (Soil pH)

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?			•	
Were target analytes in the method blank less than MDL?			•	
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	SN7165
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Katahdin Analytical Services, Westbrook, ME
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance
Date Submitted:	Specialist December 08, 2020 - Resubmitted February 11, 2021 to add qualifiers to sample -001 method 6010 based on PDS/SD outliers.

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	BNASIM	LYDKHN	SW6010	SW6020	SW7196	SW7470	SW7471	SW8260	SW8270	SW9045
NHFLA-MW10-A-AUG2020	SN7165-1	Solid	Field Sample/N	X	X	X		X		X	X	X	X
NHFLA-MW10-B-AUG2020	SN7165-2	Solid	Field Sample/N	X	X	X		X		X	X	X	
NHFLA-MW10-C-AUG2020	SN7165-3	Solid	Field Sample/N	X	X	X		X		X	X	X	
NHFLA-EB6-AUG2020	SN7165-4	Water	Equipment Blank/EB	X			X	X	X		X	X	
NHFLA-TB6-AUG2020	SN7165-5	Water	Trip Blank/TB								X		

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Katahdin Analytical Services, Westbrook, ME and were reported under sample delivery group (SDG) SN7165. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Extracted Internal Standard
- Lab Blank
- Lab Replicate RPD
- LCS Recovery
- LCS RPD
- MS Recovery
- MS RPD
- Prep Hold Time
- Surrogate
- Test Hold Time
- Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 22 results (3.53%) out of the 623 results (sample and field QC samples) reported are qualified based on review and 0 results (0.00%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Hydrazine field sample results and QC are included in this SDG but electronic data is in separate SDG (12376-1). Please reference validation report 12376-1 for data qualification summary.

Analytical Method	Data Reviewer Comment
BNASIM	No additional comments; see Checklist for detail.
LYDKHN	No additional comments; see Checklist for detail.
SW6010	No additional comments; see Checklist for detail.
SW6020	No additional comments; see Checklist for detail.
SW7196	No additional comments; see Checklist for detail.
SW7470	No additional comments; see Checklist for detail.
SW7471	No additional comments; see Checklist for detail.
SW8260	No additional comments; see Checklist for detail.
SW8270	No additional comments; see Checklist for detail.
SW9045	No additional comments; see Checklist for detail.

Jim Tomalia

February 11, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method BNASIM, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB6-AUG2020 (EB)/ SN7165-4	Benzo (k)fluoranthene	0.05200	< 0.048	< 0.2	ug/l	U/None	V	
NHFLA-EB6-AUG2020 (EB)/ SN7165-4	Benzo (g,h,i)perylene	0.07500	< 0.064	< 0.2	ug/l	U/None	V	
NHFLA-EB6-AUG2020 (EB)/ SN7165-4	Dibenz (a,h)anthracene	0.07800	< 0.069	< 0.2	ug/l	U/None	V	
NHFLA-EB6-AUG2020 (EB)/ SN7165-4	Benzo(a)pyrene	0.08200	< 0.065	< 0.2	ug/l	U/None	V	
NHFLA-EB6-AUG2020 (EB)/ SN7165-4	Indeno(1,2,3-c,d)pyrene	0.08400	< 0.051	< 0.2	ug/l	U/None	V	
NHFLA-EB6-AUG2020 (EB)/ SN7165-4	Benzo (b)fluoranthene	0.1200	< 0.087	< 0.2	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method BNASIM, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285105-1 (LB)/ WG285105-1	Chrysene	0.04300	< 0.036	< 0.2	ug/l	U/None	L	
WG285105-1 (LB)/ WG285105-1	Indeno(1,2,3-c,d)pyrene	0.05600	< 0.052	< 0.2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB6-AUG2020	EB	Indeno(1,2,3-c,d)pyrene	0.200	0.0840 J	0.0980 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method BNASIM, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285101-1 (LB)/ WG285101-1	Indeno(1,2,3-c,d)pyrene	3.200	< 1.9	< 20	ug/kg	U/None	L	
WG285101-1 (LB)/ WG285101-1	Benzo (g,h,i)perylene	3.500	< 2	< 20	ug/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method LYDKHN, Prep Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of extraction found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW10-A-AUG2020 (N)/ SN7165-1		8.020	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW10-B-AUG2020 (N)/ SN7165-2		8.010	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW10-C-AUG2020 (N)/ SN7165-3		8.020	< 0	< 0	days	J/X	H2	Prep Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6010, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Cadmium	0.008200	< 0.0079	< 0.5	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Arsenic	0.07500	< 0.068	< 0.8	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Antimony	0.1200	< 0.07	< 0.8	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Magnesium	0.8500	< 0.68	< 10	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Iron	1.900	< 1.4	< 10	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Potassium	13.00	< 2.9	< 100	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Sodium	6.400	< 1.5	< 100	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Chromium	0.08200	< 0.026	< 1	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Aluminum	3.000	< 0.71	< 30	mg/kg	U/None	L	
PBSNH27ICS1 (LB)/ PBSNH27ICS1	Calcium	3.600	< 1.8	< 10	mg/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW10-A-AUG2020	N	Antimony	0.870	0.440 JN	0.540 UJ		mg/kg	L/M
NHFLA-MW10-B-AUG2020	N	Antimony	0.670	0.370 J	0.420 U		mg/kg	L
NHFLA-MW10-C-AUG2020	N	Antimony	0.780	0.300 J	0.490 U		mg/kg	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB6-AUG2020 (EB)/ SN7165-4	Barium	0.3500	< 0.27	< 2	ug/l	U/None	V	
NHFLA-EB6-AUG2020 (EB)/ SN7165-4	Chromium	0.4400	< 0.22	< 5	ug/l	U/None	V	
NHFLA-EB6-AUG2020 (EB)/ SN7165-4	Sodium	150.0	< 19	< 1000	ug/l	U/None	V	
NHFLA-EB6-AUG2020 (EB)/ SN7165-4	Aluminum	16.00	< 4.4	< 100	ug/l	U/None	V	
NHFLA-EB6-AUG2020 (EB)/ SN7165-4	Calcium	160.0	< 21	< 100	ug/l	U/None	V	
NHFLA-EB6-AUG2020 (EB)/ SN7165-4	Iron	244.0	< 13	< 100	ug/l	U/None	V	
NHFLA-EB6-AUG2020 (EB)/ SN7165-4	Magnesium	25.00	< 8	< 100	ug/l	U/None	V	
NHFLA-EB6-AUG2020 (EB)/ SN7165-4	Copper	3.080	< 0.19	< 3	ug/l	U/None	V	
NHFLA-EB6-AUG2020 (EB)/ SN7165-4	Manganese	2.800	< 0.35	< 2	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNH27IMW1 (LB)/ PBWNH27IMW1	Lead	0.09200	< 0.074	< 1	ug/l	U/None	L	
PBWNH27IMW1 (LB)/ PBWNH27IMW1	Chromium	0.5200	< 0.22	< 5	ug/l	U/None	L	
PBWNH27IMW1 (LB)/ PBWNH27IMW1	Copper	1.300	< 0.18	< 3	ug/l	U/None	L	
PBWNH27IMW1 (LB)/ PBWNH27IMW1	Magnesium	16.00	< 7.8	< 100	ug/l	U/None	L	
PBWNH27IMW1 (LB)/ PBWNH27IMW1	Aluminum	17.00	< 4.4	< 100	ug/l	U/None	L	
PBWNH27IMW1 (LB)/ PBWNH27IMW1	Calcium	28.00	< 20	< 100	ug/l	U/None	L	
PBWNH27IMW1 (LB)/ PBWNH27IMW1	Sodium	72.00	< 19	< 1000	ug/l	U/None	L	
PBWNH27IMW1 (LB)/ PBWNH27IMW1	Iron	88.00	< 13	< 100	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB6-AUG2020	EB	Aluminum	100	16.0 J	40.0 U		ug/l	L
NHFLA-EB6-AUG2020	EB	Chromium	5.00	0.440 J	4.00 U		ug/l	L
NHFLA-EB6-AUG2020	EB	Copper	3.08	3.08	3.08 U		ug/l	L
NHFLA-EB6-AUG2020	EB	Iron	244	244	244 U		ug/l	L
NHFLA-EB6-AUG2020	EB	Magnesium	100	25.0 J	80.0 U		ug/l	L
NHFLA-EB6-AUG2020	EB	Sodium	1000	150 J	400 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB6-AUG2020 (EB)/ SN7165-4	Chromium, Hexavalent	0.002800	< 0.00076	< 0.025	mg/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7196, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW10-A-AUG2020 (N)/ SN7165-1		9.120	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-MW10-B-AUG2020 (N)/ SN7165-2		9.100	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-MW10-C-AUG2020 (N)/ SN7165-3		9.070	< 1	< 2	days	J/X	H1	Test Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB6-AUG2020 (EB)/ SN7165-4	Toluene	0.5300	< 0.27	< 1	ug/l	U/None	V	
NHFLA-EB6-AUG2020 (EB)/ SN7165-4	Methylene chloride	1.700	< 1.1	< 5	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Trip Blank

The purpose of trip blanks is to determine the existence and magnitude of cross-contamination problems resulting from the shipping of samples. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in trip blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-TB6-AUG2020 (TB)/ SN7165-5	Methylene chloride	1.200	< 1.1	< 5	ug/l	U/None	T	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB6-AUG2020 (EB)/ SN7165-4	Diethyl phthalate	4.500	< 2	< 9.8	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285102-1 (LB)/ WG285102-1	Bis(2-ethylhexyl)phthalate	260.0	< 98	< 330	ug/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Table of All Qualified Results

Test Method: BNASIM	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB6-AUG2020	EB	Indeno(1,2,3-c,d)pyrene	0.200	0.0840 J	0.0980 U		ug/l	L

Test Method: SW6010	Extraction Method: SW3050							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW10-A-AUG2020	N	Antimony	0.870	0.440 JN	0.540 UJ		mg/kg	L/M
NHFLA-MW10-B-AUG2020	N	Antimony	0.670	0.370 J	0.420 U		mg/kg	L
NHFLA-MW10-C-AUG2020	N	Antimony	0.780	0.300 J	0.490 U		mg/kg	L

Test Method: SW6020	Extraction Method: SW3010							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB6-AUG2020	EB	Aluminum	100	16.0 J	40.0 U		ug/l	L
NHFLA-EB6-AUG2020	EB	Chromium	5.00	0.440 J	4.00 U		ug/l	L
NHFLA-EB6-AUG2020	EB	Copper	3.08	3.08	3.08 U		ug/l	L
NHFLA-EB6-AUG2020	EB	Iron	244	244	244 U		ug/l	L
NHFLA-EB6-AUG2020	EB	Magnesium	100	25.0 J	80.0 U		ug/l	L
NHFLA-EB6-AUG2020	EB	Sodium	1000	150 J	400 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB6-AUG2020	EB	Indeno(1,2,3-c,d)pyrene	0.200	0.0840 J	0.0840 J	0.0980 U	L

Modified Qualifiers for test method SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW10-A-AUG2020	N	Antimony	0.870	0.440 JN	0.440 J	0.540 UJ	L/M
NHFLA-MW10-A-AUG2020	N	Barium	0.540	75.1 E	75.1	75.1 J	A
NHFLA-MW10-A-AUG2020	N	Calcium	11.0	30500 N*EA	30500	30500 J	A
NHFLA-MW10-A-AUG2020	N	Chromium	1.10	19.7 N*	19.7	19.7 J	M/D
NHFLA-MW10-A-AUG2020	N	Iron	11.0	23500 NEA	23500	23500 J	A
NHFLA-MW10-A-AUG2020	N	Lead	0.540	31.6 N*E	31.6	31.6 J	M/D
NHFLA-MW10-A-AUG2020	N	Manganese	0.540	721 NEA	721	721 J	M2
NHFLA-MW10-A-AUG2020	N	Nickel	1.10	29.1 NE	29.1	29.1 J	M/A
NHFLA-MW10-A-AUG2020	N	Potassium	110	2290 N*	2290	2290 J	M/D
NHFLA-MW10-A-AUG2020	N	Silver	1.10	0.874 JA	0.874 J	0.874 J	TR/M2
NHFLA-MW10-A-AUG2020	N	Vanadium	1.10	29.2 N	29.2	29.2 J	M
NHFLA-MW10-A-AUG2020	N	Zinc	2.20	119 N*E	119	119 J	M/D/A
NHFLA-MW10-B-AUG2020	N	Antimony	0.670	0.370 J	0.370 J	0.420 U	L
NHFLA-MW10-C-AUG2020	N	Antimony	0.780	0.300 J	0.300 J	0.490 U	L

Modified Qualifiers for test method SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB6-AUG2020	EB	Aluminum	100	16.0 J	16.0 J	40.0 U	L
NHFLA-EB6-AUG2020	EB	Chromium	5.00	0.440 J	0.440 J	4.00 U	L
NHFLA-EB6-AUG2020	EB	Copper	3.08	3.08	3.08	3.08 U	L
NHFLA-EB6-AUG2020	EB	Iron	244	244	244	244 U	L
NHFLA-EB6-AUG2020	EB	Magnesium	100	25.0 J	25.0 J	80.0 U	L
NHFLA-EB6-AUG2020	EB	Sodium	1000	150 J	150 J	400 U	L

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW10-B-AUG2020	N	Carbon disulfide	3.30	0.530 J	0.530 J	0.530 J	TR/I
NHFLA-MW10-B-AUG2020	N	Cyclohexane	3.30	1.30 J	1.30 J	1.30 J	TR/I
NHFLA-MW10-B-AUG2020	N	Methylcyclohexane	3.30	2.50 J	2.50 J	2.50 J	TR/I

Modified Qualifiers for test method SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW10-A-AUG2020	N	Caprolactam	310	230 UL	230 U	230 UJ	C
NHFLA-MW10-B-AUG2020	N	Caprolactam	340	250 UL	250 U	250 UJ	C
NHFLA-MW10-C-AUG2020	N	Caprolactam	330	250 UL	250 U	250 UJ	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Automated Data Review Detail Report for SN7165
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Rejected Results

--No Records Found--

Automated Data Review Detail Report for SN7165
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
SW6010/SW3050/NONE	3	18
SW7196/SW3060/NONE	3	3
SW7471/METHOD/NONE	2	2
SW8260/SW5035/NONE	1	4
SW8270/SW3550/NONE	2	34

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-MW10-A-AUG2020	N	1	Antimony	0.540 UJ	0.0760	0.540	0.870	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW10-A-AUG2020	N	1	Arsenic	9.37	0.0740	0.540	0.870	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW10-A-AUG2020	N	1	Cadmium	0.324 J	0.00860	0.320	0.540	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW10-A-AUG2020	N	1	Cobalt	9.18	0.0310	0.430	1.10	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW10-A-AUG2020	N	1	Selenium	1.30	0.180	0.760	1.10	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW10-A-AUG2020	N	1	Thallium	0.170 J	0.0930	0.540	1.60	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW10-B-AUG2020	N	1	Antimony	0.420 U	0.0590	0.420	0.670	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW10-B-AUG2020	N	1	Arsenic	7.33	0.0570	0.420	0.670	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW10-B-AUG2020	N	1	Cadmium	0.184 J	0.00660	0.250	0.420	0.119999	mg/Kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-MW10-B-AUG2020	N	1	Cobalt	7.16	0.0240	0.340	0.840	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW10-B-AUG2020	N	1	Selenium	1.20	0.140	0.590	0.840	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW10-B-AUG2020	N	1	Thallium	0.420 U	0.0720	0.420	1.20	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW10-C-AUG2020	N	1	Antimony	0.490 U	0.0680	0.490	0.780	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW10-C-AUG2020	N	1	Arsenic	11.1	0.0660	0.490	0.780	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW10-C-AUG2020	N	1	Cadmium	0.124 J	0.00770	0.290	0.490	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW10-C-AUG2020	N	1	Cobalt	3.28	0.0280	0.390	0.980	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW10-C-AUG2020	N	1	Selenium	1.70	0.170	0.680	0.980	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW10-C-AUG2020	N	1	Thallium	1.40 J	0.0840	0.490	1.50	0.016666	mg/Kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7196/SW3060/NONE	NHFLA-MW10-A-AUG2020	N	1.2	Chromium, Hexavalent	0.320 U	0.160	0.320	0.540	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-MW10-B-AUG2020	N	1.2	Chromium, Hexavalent	0.170 J	0.160	0.330	0.550	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-MW10-C-AUG2020	N	2.5	Chromium, Hexavalent	0.720 U	0.360	0.720	1.20	0.4	mg/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7471/METHOD/NONE	NHFLA-MW10-A-AUG2020	N	1	Mercury	0.0590	0.00540	0.0180	0.0350	0.033	mg/Kg
SW7471/METHOD/NONE	NHFLA-MW10-B-AUG2020	N	1	Mercury	0.0510	0.00560	0.0180	0.0360	0.033	mg/Kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8260/SW5035/NONE	NHFLA-MW10-C-AUG2020	N	1	1,2-Dibromo-3-chloropropane	2.90 U	1.70	2.90	5.70	5	ug/kg
SW8260/SW5035/NONE	NHFLA-MW10-C-AUG2020	N	1	Bromomethane	5.70 U	1.30	5.70	11.0	10	ug/kg
SW8260/SW5035/NONE	NHFLA-MW10-C-AUG2020	N	1	Carbon disulfide	2.90 U	0.890	2.90	5.70	5	ug/kg
SW8260/SW5035/NONE	NHFLA-MW10-C-AUG2020	N	1	Vinyl chloride	5.70 U	1.00	5.70	11.0	10	ug/kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW10-B-AUG2020	N	1	1,2,4,5-Tetrachlorobenzene	250 U	140	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW10-B-AUG2020	N	1	2,4-Dichlorophenol	250 U	150	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW10-B-AUG2020	N	1	2,4-Dimethylphenol	250 U	170	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW10-B-AUG2020	N	1	2,4-Dinitrophenol	630 U	390	630	840	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW10-B-AUG2020	N	1	2,6-Dinitrotoluene	250 U	81.0	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW10-B-AUG2020	N	1	2-Chlorophenol	250 U	170	250	340	330	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW10-B-AUG2020	N	1	2-Methylphenol (o-Cresol)	250 U	200	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW10-B-AUG2020	N	1	2-Nitroaniline	630 U	77.0	630	840	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW10-B-AUG2020	N	1	3,3'-Dichlorobenzidine	250 U	120	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW10-B-AUG2020	N	1	4,6-Dinitro-2-methylphenol	630 U	340	630	840	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW10-B-AUG2020	N	1	4-Chloroaniline	250 U	120	250	340	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-MW10-B-AUG2020	N	1	Atrazine	250 U	93.0	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW10-B-AUG2020	N	1	Benzyl butyl phthalate	250 U	95.0	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW10-B-AUG2020	N	1	Biphenyl (Diphenyl)	250 U	75.0	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW10-B-AUG2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	250 U	83.0	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW10-B-AUG2020	N	1	bis(2-Ethylhexyl) phthalate	2700	100	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW10-B-AUG2020	N	1	Carbazole	250 U	110	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW10-B-AUG2020	N	1	Dibenzofuran	250 U	81.0	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW10-B-AUG2020	N	1	Diethyl phthalate	250 U	82.0	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW10-B-AUG2020	N	1	Dimethyl phthalate	250 U	80.0	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW10-B-AUG2020	N	1	Di-n-butyl phthalate	250 U	100	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW10-B-AUG2020	N	1	Di-n-octyl phthalate	250 U	220	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW10-B-AUG2020	N	1	Hexachlorobenzene	250 U	84.0	250	340	330	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW10-B-AUG2020	N	1	Hexachlorobutadiene	250 U	85.0	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW10-B-AUG2020	N	1	Hexachlorocyclopentadiene	250 U	84.0	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW10-B-AUG2020	N	1	Hexachloroethane	250 U	98.0	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW10-B-AUG2020	N	1	n-Nitrosodi-n-propylamine	250 U	85.0	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW10-B-AUG2020	N	1	n-Nitrosodiphenylamine	250 U	220	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW10-B-AUG2020	N	1	Pentachlorophenol	630 U	240	630	840	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW10-B-AUG2020	N	1	Phenol	250 U	160	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW10-C-AUG2020	N	1	2,4-Dinitrophenol	620 U	380	620	830	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW10-C-AUG2020	N	1	2-Nitroaniline	620 U	76.0	620	830	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW10-C-AUG2020	N	1	4,6-Dinitro-2-methylphenol	620 U	340	620	830	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW10-C-AUG2020	N	1	Pentachlorophenol	620 U	240	620	830	820	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
C	LCS Recovery
D	MS RPD
H1	Test Hold Time
H2	Prep Hold Time
I	Surrogate recovery outside project limits.
L	Lab Blank
M	MS Recovery
T	Trip Blank
TR	Trace Level Detect
V	Equipment Blank

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: BNASIM (GC/MS-SIM Analysis by SW8270)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		LCS WG285105-2 had one of three surrogates outside of project criteria biased high. Qualifications were not applied based on this QC surrogate recovery outlier and electronic data was not available in FUDSChem database.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG285101-1 (indeno(123cd)pyrene and benzo(ghi)perylene) and WG285105-1 (chrysene)detections below the LOQ did not result in qualification of field data.QC batch WG285105-1 detections below LOQ for indeno (123cd)pyrene resulted in qualification of this analyte results for sample -004 with U/L flags (non-detect at LOD).
Were target analytes in the field blank less than MDL?	•			Equipment blank detections were not used to qualify field sample results.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			LCS ONLY.
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: LYDKHN (Lloyd Kahn Method for the Determination of Total Organic Carbon in Sediment, USEPA Region II Method)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW6010 (Trace Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch NH27ICS1 method blank had detections below the LOQ for aluminum, antimony, arsenic, cadmium, calcium, chromium, iron, magnesium, potassium, sodium. Client samples -01, -02, -03 antimony results were qualified as non-detect at the LOD with U/L flags based on method blank detections.
Were target analytes in the field blank less than MDL?		•		Equipment blank detections were not used to qualify soil field sample detections.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		MS/MSD recoveries from sample -001 spike were outlers biased low for antimony and zinc. These sample -001 results were qualified as estimated with UJ flags if non-detect and J flags if detected using M reason code. Recoveries were biased high AND low for chromium, lead and potassium so these sample -001 results were also qualified estimated with J flags and M reason codes. Nickel and Vanadium recoveries were biased low for the MS only so these were also qualified as estimated with J flags and M reason codes. Aluminum, calcium, iron, magnesium and manganese recoveries were not used to qualify field data since the sample results were greater than 4X the amount spiked.
Was the MS/MSD RPD within project acceptance limits?		•		Sample -001 MS/MSD RPD's were outliers for chromium, lead, potassium and zinc so these were qualified estimated with J flags and D reason codes. Aluminum and calcium RPD outliers were not used to qualify results due to 4X rule noted above.
Were the post spike recoveries within project acceptance limits?		•		Silver PDS outlier for sample -001. Aluminum, calcium, iron, magnesium, manganese PDS spike levels not considered significant compared to sample concentrations so not used to qualify results. Silver qualified estimated J flag.
Were the serial dilution RPD values within project acceptance limits?		•		Sample -001 SD outliers for barium, calcium, iron, lead, manganese, nickel, zinc. All qualified estimated J flag.
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary

Review Questions

Method: SW6010 (Trace Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry)				
Review Questions	Yes	No	NA	Comment
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW6020 (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch NH27IMW1 method blank had detections below the LOD for aluminum, calcium, copper, chromium, iron, lead, magnesium, sodium. Client sample -004 results were qualified as non-detect at the LOD for aluminum, chromium, copper, magnesium and sodium and qualified as non-detect at the lab result for copper and iron and all were flagged U/L based on the prep blank detections.
Were target analytes in the field blank less than MDL?		•		Equipment blank detections were not used to qualify client sample results as part of this stage 2A review.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7196 (Chromium, Hexavalent (Colorimetric))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?		•		Equipment blank detections were not used to qualify client sample results as part of this stage 2A review.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		Project QAPP MS soluble and insoluble predigestion MS requirements were not both met. Only one MS reported.
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7470 (Mercury in Liquid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7471 (Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW8260 (Volatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Surrogate recoveries were biased high for 1 of 4 surrogates in client samples -001 and -002. All detections for these samples were qualified as estimated with J/I flags. Non-detects did not require qualification. Samples were reanalyzed wit surrogate recovery outliers for sample -001RA but these re-analysis results were not used as the final results.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?		•		Trip blank had a detection below the LOQ for methylene chloride and equipment blank detections below LOQ for methylene chloride and toluene. Qualifications of soil field results were not qualified based on these aqueous EB and TB detections.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Internal standard outlier issues noted in case narrative were not addressed as part of this stage 2A validation review.
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data rejected during the verification process?		•		

Review Questions

Method: SW8270 (Semivolatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch method blank WG285102-1 (soil) had detections below the LOQ for bis-2-ethylhexylphthalate. Qualifications of field sample results was not required based on this method blank detection at the 5X level.
Were target analytes in the field blank less than MDL?		•		Equipment blank aqueous detections were not used to qualify soil field results.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch WG285102-2 (soil) LCS recovery was biased low for CAPROLACTAM so this result was qualified as estimated in samples -001, -002, -003 with UJ flags and C reason code. QC LCS WG285104-2 (water) high bias for benzaldehyde did not require qualification for field sample results.
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Internal standard and calibration outlier issues noted in case narrative were not addressed as part of this stage 2A validation review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data rejected during the verification process?		•		

Review Questions

Method: SW9045 (Soil pH)

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?			•	
Were target analytes in the method blank less than MDL?			•	
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	SN7207
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Katahdin Analytical Services, Westbrook, ME
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	December 15, 2020 Resubmitted Januay 26, 2021 based on DoD Chemist review and February 11, 2021 to correct narration for S2AVEM7 method 6020 and 7471

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	BNASIM	LYDKHN	SW6010	SW6020	SW7196	SW7470	SW7471	SW8260	SW8270	SW9045
NHFLA-DUP1-AUG2020	SN7207-4	Solid	Field Duplicate/FD	X	X	X		X		X	X	X	X
NHFLA-DUP2-AUG2020	SN7207-5	Solid	Field Duplicate/FD	X	X	X		X		X	X	X	X
NHFLA-MW15-A-AUG2020	SN7207-1	Solid	Field Sample/N	X	X	X		X		X	X	X	X
NHFLA-MW15-B-AUG2020	SN7207-2	Solid	Field Sample/N	X	X	X		X		X	X	X	
NHFLA-MW15-C-AUG2020	SN7207-3	Solid	Field Sample/N	X	X	X		X		X	X	X	
NHFLA-MW6-A-AUG2020	SN7207-6	Solid	Field Sample/N	X	X	X		X		X	X	X	X
NHFLA-MW6-B-AUG2020	SN7207-7	Solid	Field Sample/N	X	X	X		X		X	X	X	
NHFLA-EB7-AUG2020	SN7207-8	Water	Equipment Blank/EB	X			X	X	X		X	X	
NHFLA-TB7-AUG2020	SN7207-9	Water	Trip Blank/TB								X		
NHFLA-TB8-AUG2020	SN7207-10	Water	Trip Blank/TB								X		

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Katahdin Analytical Services, Westbrook, ME and were reported under sample delivery group (SDG) SN7207. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Extracted Internal Standard
- Field Duplicate RPD
- Lab Blank
- Lab Replicate RPD
- LCS Recovery
- LCS RPD
- MS Recovery
- MS RPD
- Prep Hold Time
- Surrogate
- Test Hold Time
- Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 318 results (25.46%) out of the 1249 results (sample and field QC samples) reported are qualified based on review and 1 results (0.08%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Hydrazine field sample results and QC are included in this SDG but electronic data is in separate SDG (12240-1). Please reference validation report 12240-1 for data qualification summary.

Analytical Method	Data Reviewer Comment
BNASIM	PRECISION represented by MS/MSD RPD and field duplicate RPD results was very poor for samples -001 and its field duplicate -004 and sample -002 and its field duplicate -005 as most target analytes for both the MS/MSD/RPD and FD were outliers. This was not evaluated beyond the QC provided in this submittal but poor sample homogeneity is initially suspected.
LYDKHN	No additional comments; see Checklist for detail.
SW6010	No additional comments; see Checklist for detail.
SW6020	No additional comments; see Checklist for detail.
SW7196	No additional comments; see Checklist for detail.
SW7470	No additional comments; see Checklist for detail.
SW7471	No additional comments; see Checklist for detail.
SW8260	No additional comments; see Checklist for detail.
SW8270	No additional comments; see Checklist for detail.
SW9045	No additional comments; see Checklist for detail.

Jim Tomalia

February 11, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method BNASIM, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB7-AUG2020 (EB)/ SN7207-8	Benzo (k)fluoranthene	0.05200	< 0.046	< 0.19	ug/l	U/None	V	
NHFLA-EB7-AUG2020 (EB)/ SN7207-8	Benzo(a)pyrene	0.08600	< 0.062	< 0.19	ug/l	U/None	V	
NHFLA-EB7-AUG2020 (EB)/ SN7207-8	Benzo (g,h,i)perylene	0.08700	< 0.061	< 0.19	ug/l	U/None	V	
NHFLA-EB7-AUG2020 (EB)/ SN7207-8	Indeno(1,2,3-c,d)pyrene	0.09200	< 0.049	< 0.19	ug/l	U/None	V	
NHFLA-EB7-AUG2020 (EB)/ SN7207-8	Dibenz (a,h)anthracene	0.09900	< 0.066	< 0.19	ug/l	U/None	V	
NHFLA-EB7-AUG2020 (EB)/ SN7207-8	Benzo (b)fluoranthene	0.1400	< 0.084	< 0.19	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method BNASIM, Field Duplicate RPD

Field duplicate analyses are performed in order to assess sample collection/laboratory precision for each sample matrix. Summary forms were evaluated and compared to electronic data deliverables. Field duplicate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW15-A-AUG2020 (N)/ SN7207-4	Naphthalene	156.0	< 22	< 22	ug/kg	J/UJ	D3	
NHFLA-MW15-A-AUG2020 (N)/ SN7207-4	Dibenz (a,h)anthracene	84.44	< 50	< 50	rpd	J/UJ	D3	
NHFLA-MW15-A-AUG2020 (N)/ SN7207-4	Pyrene	107.4	< 50	< 50	rpd	J/UJ	D3	
NHFLA-MW15-A-AUG2020 (N)/ SN7207-4	Phenanthrene	121.7	< 50	< 50	rpd	J/UJ	D3	
NHFLA-MW15-A-AUG2020 (N)/ SN7207-4	Fluoranthene	139.8	< 50	< 50	rpd	J/UJ	D3	
NHFLA-MW15-A-AUG2020 (N)/ SN7207-4	Anthracene	1870	< 860	< 860	ug/kg	J/UJ	D3	
NHFLA-MW15-A-AUG2020 (N)/ SN7207-4	Benzo(a)pyrene	2080	< 860	< 860	ug/kg	J/UJ	D3	
NHFLA-MW15-A-AUG2020 (N)/ SN7207-4	Chrysene	2600	< 860	< 860	ug/kg	J/UJ	D3	
NHFLA-MW15-A-AUG2020 (N)/ SN7207-4	Benzo (b)fluoranthene	2620	< 860	< 860	ug/kg	J/UJ	D3	
NHFLA-MW15-A-AUG2020 (N)/ SN7207-4	Benzo (a)anthracene	2700	< 860	< 860	ug/kg	J/UJ	D3	
NHFLA-MW15-B-AUG2020 (N)/ SN7207-5	Anthracene	104.5	< 50	< 50	rpd	J/UJ	D3	
NHFLA-MW15-B-AUG2020 (N)/ SN7207-5	Acenaphthene	168.0	< 22	< 22	ug/kg	J/UJ	D3	
NHFLA-MW15-B-AUG2020 (N)/ SN7207-5	Fluorene	172.0	< 22	< 22	ug/kg	J/UJ	D3	
NHFLA-MW15-B-AUG2020 (N)/ SN7207-5	Dibenz (a,h)anthracene	46.00	< 22	< 22	ug/kg	J/UJ	D3	
NHFLA-MW15-B-AUG2020 (N)/ SN7207-5	Benzo (k)fluoranthene	71.70	< 50	< 50	rpd	J/UJ	D3	
NHFLA-MW15-B-AUG2020 (N)/ SN7207-5	Benzo (g,h,i)perylene	83.64	< 50	< 50	rpd	J/UJ	D3	
NHFLA-MW15-B-AUG2020 (N)/ SN7207-5	Indeno(1,2,3-c,d)pyrene	85.71	< 50	< 50	rpd	J/UJ	D3	
NHFLA-MW15-B-AUG2020 (N)/ SN7207-5	Benzo (b)fluoranthene	460.0	< 180	< 180	ug/kg	J/UJ	D3	

Quality Control Outliers for test method BNASIM, Field Duplicate RPD

Field duplicate analyses are performed in order to assess sample collection/laboratory precision for each sample matrix. Summary forms were evaluated and compared to electronic data deliverables. Field duplicate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW15-B-AUG2020 (N)/ SN7207-5	Chrysene	480.0	< 180	< 180	ug/kg	J/UJ	D3	
NHFLA-MW15-B-AUG2020 (N)/ SN7207-5	Benzo (a)anthracene	510.0	< 180	< 180	ug/kg	J/UJ	D3	
NHFLA-MW15-B-AUG2020 (N)/ SN7207-5	Pyrene	70.27	< 50	< 50	rpd	J/UJ	D3	
NHFLA-MW15-B-AUG2020 (N)/ SN7207-5	Fluoranthene	78.48	< 50	< 50	rpd	J/UJ	D3	
NHFLA-MW15-B-AUG2020 (N)/ SN7207-5	Phenanthrene	99.21	< 50	< 50	rpd	J/UJ	D3	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Field Duplicate RPD for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP1-AUG2020	FD	Benzo(a)anthracene	110	1000 MM	1000 J		ug/kg	D3/D
NHFLA-DUP1-AUG2020	FD	Benzo(a)pyrene	110	920 MM	920 J		ug/kg	D3/D
NHFLA-DUP1-AUG2020	FD	Benzo(b)fluoranthene	110	980 MM	980 J		ug/kg	D3/D
NHFLA-DUP1-AUG2020	FD	Chrysene	110	1100 MM	1100 J		ug/kg	D3/D
NHFLA-DUP1-AUG2020	FD	Fluoranthene	110	1700 MM	1700 J		ug/kg	D3/D
NHFLA-DUP1-AUG2020	FD	Naphthalene	22.0	180 MM	180 J		ug/kg	D3/M/D
NHFLA-DUP1-AUG2020	FD	Phenanthrene	110	1800 MM	1800 J		ug/kg	D3/D
NHFLA-DUP1-AUG2020	FD	Pyrene	110	2500 MM	2500 J		ug/kg	D3/D
NHFLA-DUP1-AUG2020	FD	Anthracene	22.0	330 MM	330 J		ug/kg	D3/D
NHFLA-DUP1-AUG2020	FD	Benzo(g,h,i)perylene	22.0	430 MM	430 J		ug/kg	D/D3
NHFLA-DUP1-AUG2020	FD	Benzo(k)fluoranthene	22.0	320 MM	320 J		ug/kg	D/D3
NHFLA-DUP1-AUG2020	FD	Dibenz(a,h)anthracene	22.0	130 MM	130 J		ug/kg	D3/D/M
NHFLA-DUP1-AUG2020	FD	Indeno(1,2,3-c,d)pyrene	22.0	430 MM	430 J		ug/kg	D/D3
NHFLA-DUP2-AUG2020	FD	Benzo(a)anthracene	19.0	340	340 J		ug/kg	D3/D
NHFLA-DUP2-AUG2020	FD	Benzo(a)pyrene	19.0	310	310 J		ug/kg	D/D3
NHFLA-DUP2-AUG2020	FD	Benzo(b)fluoranthene	19.0	380 L	380 J	-	ug/kg	D3/C/D
NHFLA-DUP2-AUG2020	FD	Chrysene	19.0	340	340 J		ug/kg	D3/D
NHFLA-DUP2-AUG2020	FD	Fluoranthene	58.0	960	960 J		ug/kg	D3/D
NHFLA-DUP2-AUG2020	FD	Phenanthrene	58.0	640	640 J		ug/kg	D3/D
NHFLA-DUP2-AUG2020	FD	Pyrene	58.0	960	960 J		ug/kg	D3/D
NHFLA-DUP2-AUG2020	FD	Acenaphthene	19.0	62.0	62.0 J		ug/kg	D3/D
NHFLA-DUP2-AUG2020	FD	Anthracene	19.0	160	160 J		ug/kg	D3/D
NHFLA-DUP2-AUG2020	FD	Benzo(g,h,i)perylene	19.0	160	160 J		ug/kg	D3/D

Qualified Results associated with the Field Duplicate RPD for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP2-AUG2020	FD	Benzo(k)fluoranthene	19.0	170	170 J		ug/kg	D3/D
NHFLA-DUP2-AUG2020	FD	Dibenz(a,h)anthracene	19.0	54.0	54.0 J		ug/kg	D3/M
NHFLA-DUP2-AUG2020	FD	Fluorene	19.0	58.0	58.0 J		ug/kg	D3/D
NHFLA-DUP2-AUG2020	FD	Indeno(1,2,3-c,d)pyrene	19.0	140	140 J		ug/kg	D3/D
NHFLA-MW15-A-AUG2020	N	Benzo(a)anthracene	860	3700	3700 J		ug/kg	D3/D
NHFLA-MW15-A-AUG2020	N	Benzo(a)pyrene	860	3000	3000 J		ug/kg	D3/D
NHFLA-MW15-A-AUG2020	N	Benzo(b)fluoranthene	860	3600 L	3600 J	-	ug/kg	D3/C/D
NHFLA-MW15-A-AUG2020	N	Chrysene	860	3700	3700 J		ug/kg	D3/D
NHFLA-MW15-A-AUG2020	N	Fluoranthene	860	9600	9600 J		ug/kg	D3/D
NHFLA-MW15-A-AUG2020	N	Naphthalene	22.0	24.0	24.0 J		ug/kg	D3/M/D
NHFLA-MW15-A-AUG2020	N	Phenanthrene	860	7400	7400 J		ug/kg	D3/D
NHFLA-MW15-A-AUG2020	N	Pyrene	860	8300	8300 J		ug/kg	D3/D
NHFLA-MW15-A-AUG2020	N	Anthracene	860	2200	2200 J		ug/kg	D3/D
NHFLA-MW15-A-AUG2020	N	Benzo(g,h,i)perylene	860	1700	1700 J		ug/kg	D/D3
NHFLA-MW15-A-AUG2020	N	Benzo(k)fluoranthene	860	1600	1600 J		ug/kg	D/D3
NHFLA-MW15-A-AUG2020	N	Dibenz(a,h)anthracene	22.0	320	320 J		ug/kg	D3/D/M
NHFLA-MW15-A-AUG2020	N	Indeno(1,2,3-c,d)pyrene	860	1500	1500 J		ug/kg	D/D3
NHFLA-MW15-B-AUG2020	N	Benzo(a)anthracene	180	850	850 J		ug/kg	D3/D
NHFLA-MW15-B-AUG2020	N	Benzo(a)pyrene	180	670	670 J		ug/kg	D/D3
NHFLA-MW15-B-AUG2020	N	Benzo(b)fluoranthene	180	840 L	840 J	-	ug/kg	D3/C/D
NHFLA-MW15-B-AUG2020	N	Chrysene	180	820	820 J		ug/kg	D3/D
NHFLA-MW15-B-AUG2020	N	Fluoranthene	180	2200	2200 J		ug/kg	D3/D
NHFLA-MW15-B-AUG2020	N	Phenanthrene	180	1900	1900 J		ug/kg	D3/D
NHFLA-MW15-B-AUG2020	N	Pyrene	180	2000	2000 J		ug/kg	D3/D
NHFLA-MW15-B-AUG2020	N	Acenaphthene	22.0	230	230 J		ug/kg	D3/D
NHFLA-MW15-B-AUG2020	N	Anthracene	22.0	510	510 J		ug/kg	D3/D
NHFLA-MW15-B-AUG2020	N	Benzo(g,h,i)perylene	22.0	390	390 J		ug/kg	D3/D
NHFLA-MW15-B-AUG2020	N	Benzo(k)fluoranthene	22.0	360	360 J		ug/kg	D3/D
NHFLA-MW15-B-AUG2020	N	Dibenz(a,h)anthracene	22.0	100	100 J		ug/kg	D3/M

Qualified Results associated with the Field Duplicate RPD for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW15-B-AUG2020	N	Fluorene	22.0	230	230 J		ug/kg	D3/D
NHFLA-MW15-B-AUG2020	N	Indeno(1,2,3-c,d)pyrene	22.0	350	350 J		ug/kg	D3/D

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method BNASIM, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285184-1RA (LB)/ WG285184-1RA	Chrysene	0.04500	< 0.036	< 0.2	ug/l	U/None	L	
WG285184-1RA (LB)/ WG285184-1RA	Indeno(1,2,3-c,d)pyrene	0.1100	< 0.052	< 0.2	ug/l	U/None	L	
WG285184-1RA (LB)/ WG285184-1RA	Benzo(a)pyrene	0.1200	< 0.066	< 0.2	ug/l	U/None	L	
WG285184-1RA (LB)/ WG285184-1RA	Benzo (b)fluoranthene	0.1200	< 0.089	< 0.2	ug/l	U/None	L	
WG285184-1RA (LB)/ WG285184-1RA	Benzo (g,h,i)perylene	0.1400	< 0.065	< 0.2	ug/l	U/None	L	
WG285184-1RA (LB)/ WG285184-1RA	Dibenz (a,h)anthracene	0.1400	< 0.07	< 0.2	ug/l	U/None	L	
WG285184-1RA (LB)/ WG285184-1RA	Benzo (k)fluoranthene	0.1700	< 0.049	< 0.2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB7-AUG2020	EB	Benzo(a)pyrene	0.190	0.0860 JB	0.0940 U		ug/l	L
NHFLA-EB7-AUG2020	EB	Benzo(b)fluoranthene	0.190	0.140 JB	0.190 U		ug/l	L
NHFLA-EB7-AUG2020	EB	Benzo(g,h,i)perylene	0.190	0.0870 JB	0.0940 U		ug/l	L
NHFLA-EB7-AUG2020	EB	Benzo(k)fluoranthene	0.190	0.0520 JB	0.0940 U		ug/l	L
NHFLA-EB7-AUG2020	EB	Dibenz(a,h)anthracene	0.190	0.0990 JB	0.190 U		ug/l	L
NHFLA-EB7-AUG2020	EB	Indeno(1,2,3-c,d)pyrene	0.190	0.0920 JB	0.0940 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method BNASIM, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285191-1 (LB)/ WG285191-1	Benzo (a)anthracene	2.000	< 1.9	< 20	ug/kg	U/None	L	
WG285634-1 (LB)/ WG285634-1	Benzo (g,h,i)perylene	4.000	< 2	< 20	ug/kg	U/None	L	
WG285634-1 (LB)/ WG285634-1	Dibenz (a,h)anthracene	4.100	< 1.8	< 20	ug/kg	U/None	L	
WG285634-1 (LB)/ WG285634-1	Indeno(1,2,3-c,d)pyrene	4.200	< 1.9	< 20	ug/kg	U/None	L	
WG285634-1 (LB)/ WG285634-1	Benzo (k)fluoranthene	4.500	< 3.1	< 20	ug/kg	U/None	L	
WG285634-1 (LB)/ WG285634-1	Benzo(a)pyrene	4.500	< 3.3	< 20	ug/kg	U/None	L	
WG285634-1 (LB)/ WG285634-1	Benzo (b)fluoranthene	7.200	< 2.4	< 20	ug/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method BNASIM, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285191-2 (BS)/ WG285191-2	Benzo (b)fluoranthene	47.08	53 - 128	10 - 128	percent	J/UJ	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP2-AUG2020	FD	Benzo(b)fluoranthene	19.0	380 L	380 J	-	ug/kg	D3/C/D
NHFLA-MW15-A-AUG2020	N	Benzo(b)fluoranthene	860	3600 L	3600 J	-	ug/kg	D3/C/D
NHFLA-MW15-B-AUG2020	N	Benzo(b)fluoranthene	180	840 L	840 J	-	ug/kg	D3/C/D
NHFLA-MW15-C-AUG2020	N	Benzo(b)fluoranthene	26.0	13.0 UL	13.0 UJ		ug/kg	C
NHFLA-MW6-A-AUG2020	N	Benzo(b)fluoranthene	120	1200 L	1200 J	-	ug/kg	C
NHFLA-MW6-B-AUG2020	N	Benzo(b)fluoranthene	22.0	23.0 L	23.0 J	-	ug/kg	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method BNASIM, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS1-AUG2020 (MS)/ WG285634-3	Acenaphthene	-16.04	44 - 111	10 - 111	percent	J/X	M	Spike amount Insignificant
NHFLA-MS1-AUG2020 (MS)/ WG285634-3	Dibenz (a,h)anthracene	-33.56	50 - 129	10 - 129	percent	J/X	M	Spike amount Insignificant
NHFLA-MS1-AUG2020 (MS)/ WG285634-3	Naphthalene	136.7	38 - 111	10 - 111	percent	J/None	M	
NHFLA-MS1-AUG2020 (MS)/ WG285634-3	2-Methylnaphthalene	142.9	39 - 114	10 - 114	percent	J/None	M	
NHFLA-MS1-AUG2020 (MS)/ WG285634-3	Benzo (b)fluoranthene	16.92	53 - 128	10 - 128	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MS1-AUG2020 (MS)/ WG285634-3	Indeno(1,2,3-c,d)pyrene	40.82	49 - 130	10 - 130	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MS1-AUG2020 (MS)/ WG285634-3	Benzo (g,h,i)perylene	42.41	49 - 127	10 - 127	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MS1-AUG2020 (MS)/ WG285634-3	Chrysene	44.80	57 - 118	10 - 118	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MS1-AUG2020 (MS)/ WG285634-3	Phenanthrene	46.19	49 - 113	10 - 113	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MS1-AUG2020 (MS)/ WG285634-3	Pyrene	46.32	55 - 117	10 - 117	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MS1-AUG2020 (MS)/ WG285634-3	Anthracene	46.76	50 - 114	10 - 114	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MS1-AUG2020 (MS)/ WG285634-3	Fluorene	9.029	47 - 114	10 - 114	percent	J/X	M	Spike amount Insignificant
NHFLA-MS1-AUG2020 (MS)/ WG285634-3	Benzo (a)anthracene	9.540	54 - 122	10 - 122	percent	J/X	M	Spike amount Insignificant
NHFLA-MS2-AUG2020 (MS)/ WG285634-5	Indeno(1,2,3-c,d)pyrene	-14.59	49 - 130	10 - 130	percent	J/X	M	Spike amount Insignificant
NHFLA-MS2-AUG2020 (MS)/ WG285634-5	Benzo (g,h,i)perylene	-25.46	49 - 127	10 - 127	percent	J/X	M	Spike amount Insignificant
NHFLA-MS2-AUG2020 (MS)/ WG285634-5	Acenaphthene	0.000	44 - 111	10 - 111	percent	J/X	M	Spike amount Insignificant
NHFLA-MS2-AUG2020 (MS)/ WG285634-5	Benzo (a)anthracene	14.39	54 - 122	10 - 122	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MS2-AUG2020 (MS)/ WG285634-5	Dibenz (a,h)anthracene	148.7	50 - 129	10 - 129	percent	J/None	M	
NHFLA-MS2-AUG2020 (MS)/ WG285634-5	Benzo(a)pyrene	17.42	50 - 125	10 - 125	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MS2-AUG2020 (MS)/ WG285634-5	Fluorene	20.18	47 - 114	10 - 114	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MS2-AUG2020 (MS)/ WG285634-5	Pyrene	29.50	55 - 117	10 - 117	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MS2-AUG2020 (MS)/ WG285634-5	Benzo (b)fluoranthene	37.13	53 - 128	10 - 128	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MS2-AUG2020 (MS)/ WG285634-5	Benzo (k)fluoranthene	39.34	56 - 123	10 - 123	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MS2-AUG2020 (MS)/ WG285634-5	Phenanthrene	43.59	49 - 113	10 - 113	percent	J/UJ	M	Spike amount Insignificant

Quality Control Outliers for test method BNASIM, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS2-AUG2020 (MS)/ WG285634-5	Anthracene	44.93	50 - 114	10 - 114	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MS2-AUG2020 (MS)/ WG285634-5	Chrysene	5.304	57 - 118	10 - 118	percent	J/X	M	Spike amount Insignificant
NHFLA-MSD2-AUG2020 (SD)/ WG285634-6	Dibenz (a,h)anthracene	34.60	50 - 129	10 - 129	percent	J/UJ	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP1-AUG2020	FD	2-Methylnaphthalene	22.0	51.0 M	51.0 J		ug/kg	M/D
NHFLA-DUP1-AUG2020	FD	Acenaphthene	22.0	250 MM	250 J		ug/kg	D/M
NHFLA-DUP1-AUG2020	FD	Dibenz(a,h)anthracene	22.0	130 MM	130 J		ug/kg	D3/D/M
NHFLA-DUP1-AUG2020	FD	Naphthalene	22.0	180 MM	180 J		ug/kg	D3/M/D
NHFLA-DUP1-AUG2020	FD	Fluorene	22.0	200 MM	200 J		ug/kg	D/M
NHFLA-DUP2-AUG2020	FD	Dibenz(a,h)anthracene	19.0	54.0	54.0 J		ug/kg	D3/M
NHFLA-DUP2-AUG2020	FD	Naphthalene	19.0	6.30 J	6.30 J		ug/kg	TR/D/M
NHFLA-MW15-A-AUG2020	N	2-Methylnaphthalene	22.0	32.0	32.0 J		ug/kg	M/D
NHFLA-MW15-A-AUG2020	N	Acenaphthene	860	640 J	640 J		ug/kg	M/D/TR
NHFLA-MW15-A-AUG2020	N	Dibenz(a,h)anthracene	22.0	320	320 J		ug/kg	D3/D/M
NHFLA-MW15-A-AUG2020	N	Naphthalene	22.0	24.0	24.0 J		ug/kg	D3/M/D
NHFLA-MW15-A-AUG2020	N	Fluorene	860	700 J	700 J		ug/kg	D/TR/M
NHFLA-MW15-B-AUG2020	N	2-Methylnaphthalene	22.0	2.40 J	2.40 J		ug/kg	TR/M
NHFLA-MW15-B-AUG2020	N	Dibenz(a,h)anthracene	22.0	100	100 J		ug/kg	D3/M
NHFLA-MW15-B-AUG2020	N	Naphthalene	22.0	27.0	27.0		ug/kg	D/M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method BNASIM, MS RPD

The objective of matrix spikes/matrix spike duplicates (MS/MSD) RPD analysis is to demonstrate acceptable method precision by the laboratory at the time of analysis. MS/MSD analyses are also performed to generate data that determines the long-term precision of the analytical method on various matrices. Non-homogenous samples can impact the apparent method precision. Summary forms were evaluated and compared to electronic data deliverables. Matrix spikes/matrix spike duplicates results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS1-AUG2020 (SD)/ WG285634-4	Indeno(1,2,3-c,d)pyrene	120.0	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS1-AUG2020 (SD)/ WG285634-4	Benzo (b)fluoranthene	125.5	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS1-AUG2020 (SD)/ WG285634-4	Benzo (k)fluoranthene	125.8	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS1-AUG2020 (SD)/ WG285634-4	Benzo (g,h,i)perylene	125.9	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS1-AUG2020 (SD)/ WG285634-4	Benzo(a)pyrene	131.7	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS1-AUG2020 (SD)/ WG285634-4	Chrysene	135.8	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS1-AUG2020 (SD)/ WG285634-4	Fluoranthene	141.0	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS1-AUG2020 (SD)/ WG285634-4	Pyrene	146.0	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS1-AUG2020 (SD)/ WG285634-4	Benzo (a)anthracene	146.1	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS1-AUG2020 (SD)/ WG285634-4	Acenaphthene	147.0	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS1-AUG2020 (SD)/ WG285634-4	Phenanthrene	152.0	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS1-AUG2020 (SD)/ WG285634-4	Anthracene	153.7	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS1-AUG2020 (SD)/ WG285634-4	Dibenz (a,h)anthracene	288.0	< 22	< 22	ug/kg	J/UJ	D	
NHFLA-MS1-AUG2020 (SD)/ WG285634-4	Naphthalene	45.00	< 22	< 22	ug/kg	J/UJ	D	
NHFLA-MS1-AUG2020 (SD)/ WG285634-4	Fluorene	553.0	< 22	< 22	ug/kg	J/UJ	D	
NHFLA-MS2-AUG2020 (SD)/ WG285634-6	Dibenz (a,h)anthracene	24.00	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS2-AUG2020 (SD)/ WG285634-6	Benzo (k)fluoranthene	25.45	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS2-AUG2020 (SD)/ WG285634-6	Benzo (g,h,i)perylene	35.62	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS2-AUG2020 (SD)/ WG285634-6	Indeno(1,2,3-c,d)pyrene	38.71	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS2-AUG2020 (SD)/ WG285634-6	Benzo (b)fluoranthene	39.32	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS2-AUG2020 (SD)/ WG285634-6	Benzo(a)pyrene	40.78	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS2-AUG2020 (SD)/ WG285634-6	Fluoranthene	43.90	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS2-AUG2020 (SD)/ WG285634-6	Anthracene	51.61	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS2-AUG2020 (SD)/ WG285634-6	Chrysene	53.97	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS2-AUG2020 (SD)/ WG285634-6	Fluorene	54.55	< 20	< 20	rpd	J/UJ	D	

Quality Control Outliers for test method BNASIM, MS RPD

The objective of matrix spikes/matrix spike duplicates (MS/MSD) RPD analysis is to demonstrate acceptable method precision by the laboratory at the time of analysis. MS/MSD analyses are also performed to generate data that determines the long-term precision of the analytical method on various matrices. Non-homogenous samples can impact the apparent method precision. Summary forms were evaluated and compared to electronic data deliverables. Matrix spikes/matrix spike duplicates results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS2-AUG2020 (SD)/ WG285634-6	Acenaphthene	55.56	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS2-AUG2020 (SD)/ WG285634-6	Phenanthrene	55.71	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS2-AUG2020 (SD)/ WG285634-6	Benzo (a)anthracene	56.91	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS2-AUG2020 (SD)/ WG285634-6	Pyrene	57.58	< 20	< 20	rpd	J/UJ	D	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS RPD for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP1-AUG2020	FD	Acenaphthene	22.0	250 MM	250 J		ug/kg	D/M
NHFLA-DUP1-AUG2020	FD	Anthracene	22.0	330 MM	330 J		ug/kg	D3/D
NHFLA-DUP1-AUG2020	FD	Benzo(a)anthracene	110	1000 MM	1000 J		ug/kg	D3/D
NHFLA-DUP1-AUG2020	FD	Benzo(a)pyrene	110	920 MM	920 J		ug/kg	D3/D
NHFLA-DUP1-AUG2020	FD	Benzo(b)fluoranthene	110	980 MM	980 J		ug/kg	D3/D
NHFLA-DUP1-AUG2020	FD	Benzo(g,h,i)perylene	22.0	430 MM	430 J		ug/kg	D/D3
NHFLA-DUP1-AUG2020	FD	Benzo(k)fluoranthene	22.0	320 MM	320 J		ug/kg	D/D3
NHFLA-DUP1-AUG2020	FD	Chrysene	110	1100 MM	1100 J		ug/kg	D3/D
NHFLA-DUP1-AUG2020	FD	Fluoranthene	110	1700 MM	1700 J		ug/kg	D3/D
NHFLA-DUP1-AUG2020	FD	Indeno(1,2,3-c,d)pyrene	22.0	430 MM	430 J		ug/kg	D/D3
NHFLA-DUP1-AUG2020	FD	Naphthalene	22.0	180 MM	180 J		ug/kg	D3/M/D
NHFLA-DUP1-AUG2020	FD	Phenanthrene	110	1800 MM	1800 J		ug/kg	D3/D
NHFLA-DUP1-AUG2020	FD	Pyrene	110	2500 MM	2500 J		ug/kg	D3/D
NHFLA-DUP1-AUG2020	FD	Dibenz(a,h)anthracene	22.0	130 MM	130 J		ug/kg	D3/D/M
NHFLA-DUP1-AUG2020	FD	Fluorene	22.0	200 MM	200 J		ug/kg	D/M
NHFLA-DUP2-AUG2020	FD	Acenaphthene	19.0	62.0	62.0 J		ug/kg	D3/D
NHFLA-DUP2-AUG2020	FD	Anthracene	19.0	160	160 J		ug/kg	D3/D
NHFLA-DUP2-AUG2020	FD	Benzo(a)anthracene	19.0	340	340 J		ug/kg	D3/D
NHFLA-DUP2-AUG2020	FD	Benzo(a)pyrene	19.0	310	310 J		ug/kg	D/D3
NHFLA-DUP2-AUG2020	FD	Benzo(b)fluoranthene	19.0	380 L	380 J	-	ug/kg	D3/C/D
NHFLA-DUP2-AUG2020	FD	Benzo(g,h,i)perylene	19.0	160	160 J		ug/kg	D3/D
NHFLA-DUP2-AUG2020	FD	Benzo(k)fluoranthene	19.0	170	170 J		ug/kg	D3/D
NHFLA-DUP2-AUG2020	FD	Chrysene	19.0	340	340 J		ug/kg	D3/D
NHFLA-DUP2-AUG2020	FD	Fluoranthene	58.0	960	960 J		ug/kg	D3/D
NHFLA-DUP2-AUG2020	FD	Indeno(1,2,3-c,d)pyrene	19.0	140	140 J		ug/kg	D3/D
NHFLA-DUP2-AUG2020	FD	Naphthalene	19.0	6.30 J	6.30 J		ug/kg	TR/D/M
NHFLA-DUP2-AUG2020	FD	Phenanthrene	58.0	640	640 J		ug/kg	D3/D

Qualified Results associated with the MS RPD for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP2-AUG2020	FD	Pyrene	58.0	960	960 J		ug/kg	D3/D
NHFLA-DUP2-AUG2020	FD	Fluorene	19.0	58.0	58.0 J		ug/kg	D3/D
NHFLA-MW15-A-AUG2020	N	Acenaphthene	860	640 J	640 J		ug/kg	M/D/TR
NHFLA-MW15-A-AUG2020	N	Anthracene	860	2200	2200 J		ug/kg	D3/D
NHFLA-MW15-A-AUG2020	N	Benzo(a)anthracene	860	3700	3700 J		ug/kg	D3/D
NHFLA-MW15-A-AUG2020	N	Benzo(a)pyrene	860	3000	3000 J		ug/kg	D3/D
NHFLA-MW15-A-AUG2020	N	Benzo(b)fluoranthene	860	3600 L	3600 J	-	ug/kg	D3/C/D
NHFLA-MW15-A-AUG2020	N	Benzo(g,h,i)perylene	860	1700	1700 J		ug/kg	D/D3
NHFLA-MW15-A-AUG2020	N	Benzo(k)fluoranthene	860	1600	1600 J		ug/kg	D/D3
NHFLA-MW15-A-AUG2020	N	Chrysene	860	3700	3700 J		ug/kg	D3/D
NHFLA-MW15-A-AUG2020	N	Fluoranthene	860	9600	9600 J		ug/kg	D3/D
NHFLA-MW15-A-AUG2020	N	Indeno(1,2,3-c,d)pyrene	860	1500	1500 J		ug/kg	D/D3
NHFLA-MW15-A-AUG2020	N	Naphthalene	22.0	24.0	24.0 J		ug/kg	D3/M/D
NHFLA-MW15-A-AUG2020	N	Phenanthrene	860	7400	7400 J		ug/kg	D3/D
NHFLA-MW15-A-AUG2020	N	Pyrene	860	8300	8300 J		ug/kg	D3/D
NHFLA-MW15-A-AUG2020	N	Dibenz(a,h)anthracene	22.0	320	320 J		ug/kg	D3/D/M
NHFLA-MW15-A-AUG2020	N	Fluorene	860	700 J	700 J		ug/kg	D/TR/M
NHFLA-MW15-B-AUG2020	N	Acenaphthene	22.0	230	230 J		ug/kg	D3/D
NHFLA-MW15-B-AUG2020	N	Anthracene	22.0	510	510 J		ug/kg	D3/D
NHFLA-MW15-B-AUG2020	N	Benzo(a)anthracene	180	850	850 J		ug/kg	D3/D
NHFLA-MW15-B-AUG2020	N	Benzo(a)pyrene	180	670	670 J		ug/kg	D/D3
NHFLA-MW15-B-AUG2020	N	Benzo(b)fluoranthene	180	840 L	840 J	-	ug/kg	D3/C/D
NHFLA-MW15-B-AUG2020	N	Benzo(g,h,i)perylene	22.0	390	390 J		ug/kg	D3/D
NHFLA-MW15-B-AUG2020	N	Benzo(k)fluoranthene	22.0	360	360 J		ug/kg	D3/D
NHFLA-MW15-B-AUG2020	N	Chrysene	180	820	820 J		ug/kg	D3/D
NHFLA-MW15-B-AUG2020	N	Fluoranthene	180	2200	2200 J		ug/kg	D3/D
NHFLA-MW15-B-AUG2020	N	Indeno(1,2,3-c,d)pyrene	22.0	350	350 J		ug/kg	D3/D
NHFLA-MW15-B-AUG2020	N	Naphthalene	22.0	27.0	27.0		ug/kg	D/M

Qualified Results associated with the MS RPD for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW15-B-AUG2020	N	Phenanthrene	180	1900	1900 J		ug/kg	D3/D
NHFLA-MW15-B-AUG2020	N	Pyrene	180	2000	2000 J		ug/kg	D3/D
NHFLA-MW15-B-AUG2020	N	Fluorene	22.0	230	230 J		ug/kg	D3/D

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method LYDKHN, Prep Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of extraction found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-DUP1-AUG2020 (FD)/ SN7207-4		7.940	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-DUP2-AUG2020 (FD)/ SN7207-5		7.840	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW15-A-AUG2020 (N)/ SN7207-1		7.940	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW15-B-AUG2020 (N)/ SN7207-2		7.830	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW15-C-AUG2020 (N)/ SN7207-3		7.800	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW6-A-AUG2020 (N)/ SN7207-6		7.700	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW6-B-AUG2020 (N)/ SN7207-7		7.690	< 0	< 0	days	J/X	H2	Prep Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6010, Field Duplicate RPD

Field duplicate analyses are performed in order to assess sample collection/laboratory precision for each sample matrix. Summary forms were evaluated and compared to electronic data deliverables. Field duplicate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW15-A-AUG2020 (N)/ SN7207-4	Manganese	104.2	< 50	< 50	rpd	J/UJ	D3	
NHFLA-MW15-A-AUG2020 (N)/ SN7207-4	Chromium	123.4	< 50	< 50	rpd	J/UJ	D3	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Field Duplicate RPD for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP1-AUG2020	FD	Chromium	1.60	20.5	20.5 J		mg/kg	D3
NHFLA-DUP1-AUG2020	FD	Manganese	0.800	828 N*	828 J		mg/kg	D3/D
NHFLA-MW15-A-AUG2020	N	Chromium	1.80	86.6	86.6 J		mg/kg	D3
NHFLA-MW15-A-AUG2020	N	Manganese	0.920	2630	2630 J		mg/kg	D3/D

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6010, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBSNH31ICS1 (LB)/ PBSNH31ICS1	Chromium	0.07300	< 0.026	< 1	mg/kg	U/None	L	
PBSNH31ICS1 (LB)/ PBSNH31ICS1	Magnesium	1.000	< 0.68	< 10	mg/kg	U/None	L	
PBSNH31ICS1 (LB)/ PBSNH31ICS1	Potassium	11.00	< 2.9	< 100	mg/kg	U/None	L	
PBSNH31ICS1 (LB)/ PBSNH31ICS1	Sodium	5.400	< 1.5	< 100	mg/kg	U/None	L	
PBSNH31ICS1 (LB)/ PBSNH31ICS1	Iron	1.500	< 1.4	< 10	mg/kg	U/None	L	
PBSNH31ICS1 (LB)/ PBSNH31ICS1	Aluminum	2.300	< 0.71	< 30	mg/kg	U/None	L	
PBSNH31ICS1 (LB)/ PBSNH31ICS1	Calcium	6.200	< 1.8	< 10	mg/kg	U/None	L	
PBSNI01ICS1 (LB)/ PBSNI01ICS1	Barium	0.02800	< 0.025	< 0.5	mg/kg	U/None	L	
PBSNI01ICS1 (LB)/ PBSNI01ICS1	Chromium	0.08700	< 0.026	< 1	mg/kg	U/None	L	
PBSNI01ICS1 (LB)/ PBSNI01ICS1	Zinc	0.2000	< 0.17	< 2	mg/kg	U/None	L	
PBSNI01ICS1 (LB)/ PBSNI01ICS1	Magnesium	1.500	< 0.68	< 10	mg/kg	U/None	L	
PBSNI01ICS1 (LB)/ PBSNI01ICS1	Aluminum	2.200	< 0.71	< 30	mg/kg	U/None	L	
PBSNI01ICS1 (LB)/ PBSNI01ICS1	Sodium	3.500	< 1.5	< 100	mg/kg	U/None	L	
PBSNI01ICS1 (LB)/ PBSNI01ICS1	Potassium	5.400	< 2.9	< 100	mg/kg	U/None	L	
PBSNI01ICS1 (LB)/ PBSNI01ICS1	Calcium	6.400	< 1.8	< 10	mg/kg	U/None	L	
PBSNI02ICS1 (LB)/ PBSNI02ICS1	Nickel	0.04500	< 0.044	< 1	mg/kg	U/None	L	
PBSNI02ICS1 (LB)/ PBSNI02ICS1	Magnesium	1.600	< 0.68	< 10	mg/kg	U/None	L	
PBSNI04ICS1 (LB)/ PBSNI04ICS1	Chromium	0.05300	< 0.026	< 1	mg/kg	U/None	L	
PBSNI04ICS1 (LB)/ PBSNI04ICS1	Aluminum	1.300	< 0.71	< 30	mg/kg	U/None	L	
PBSNI04ICS1 (LB)/ PBSNI04ICS1	Magnesium	1.500	< 0.68	< 10	mg/kg	U/None	L	
PBSNI04ICS1 (LB)/ PBSNI04ICS1	Potassium	17.00	< 2.9	< 100	mg/kg	U/None	L	
PBSNI04ICS1 (LB)/ PBSNI04ICS1	Sodium	2.800	< 1.5	< 100	mg/kg	U/None	L	
PBSNI04ICS1 (LB)/ PBSNI04ICS1	Calcium	3.500	< 1.8	< 10	mg/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6010, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS1-AUG2020 (MS)/ SN7207-004S	Iron	184.3	81 - 118	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-MS1-AUG2020 (MS)/ SN7207-004S	Calcium	-154.7	81 - 116	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-MS1-AUG2020 (MS)/ SN7207-004S	Magnesium	1711	78 - 115	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-MS1-AUG2020 (MS)/ SN7207-004S	Potassium	178.5	81 - 116	30 - 125	percent	J/None	M	
NHFLA-MS1-AUG2020 (MS)/ SN7207-004S	Antimony	23.23	79 - 114	30 - 125	percent	J/X	M	
NHFLA-MS1-AUG2020 (MS)/ SN7207-004S	Zinc	56.03	82 - 113	30 - 125	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ SN7207-004S	Lead	70.50	81 - 112	30 - 125	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ SN7207-004S	Aluminum	714.3	74 - 119	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-MS1-AUG2020 (MS)/ SN7207-004S	Copper	78.97	81 - 117	30 - 125	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ SN7207-004S	Nickel	81.56	83 - 113	30 - 125	percent	J/UJ	M	
NHFLA-MS2-AUG2020 (MS)/ SN7207-005S	Calcium	29.59	81 - 116	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-MS2-AUG2020 (MS)/ SN7207-005S	Zinc	81.82	82 - 113	30 - 125	percent	J/UJ	M	
NHFLA-MS2-AUG2020 (MS)/ SN7207-005S	Manganese	-65.71	84 - 114	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-MS2-AUG2020 (MS)/ SN7207-005S	Lead	118.8	81 - 112	30 - 125	percent	J/None	M	
NHFLA-MS2-AUG2020 (MS)/ SN7207-005S	Silver	120.4	82 - 112	30 - 125	percent	J/None	M	
NHFLA-MS2-AUG2020 (MS)/ SN7207-005S	Chromium	129.2	85 - 113	30 - 125	percent	J/None	M	
NHFLA-MS2-AUG2020 (MS)/ SN7207-005S	Arsenic	129.5	82 - 111	30 - 125	percent	J/None	M	
NHFLA-MS2-AUG2020 (MS)/ SN7207-005S	Copper	136.4	81 - 117	30 - 125	percent	J/None	M	
NHFLA-MS2-AUG2020 (MS)/ SN7207-005S	Antimony	26.54	79 - 114	30 - 125	percent	J/X	M	
NHFLA-MS2-AUG2020 (MS)/ SN7207-005S	Magnesium	49.03	78 - 115	30 - 125	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MS2-AUG2020 (MS)/ SN7207-005S	Iron	-364.2	81 - 118	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-MSD1-AUG2020 (SD)/ SN7207-004P	Calcium	-117.9	81 - 116	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-MSD1-AUG2020 (SD)/ SN7207-004P	Antimony	16.67	79 - 114	30 - 125	percent	J/X	M	
NHFLA-MSD1-AUG2020 (SD)/ SN7207-004P	Magnesium	1711	78 - 115	30 - 125	percent	J/None	M	Spike amount Insignificant

Quality Control Outliers for test method SW6010, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MSD1-AUG2020 (SD)/ SN7207-004P	Zinc	61.12	82 - 113	30 - 125	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ SN7207-004P	Aluminum	666.7	74 - 119	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-MSD1-AUG2020 (SD)/ SN7207-004P	Vanadium	77.85	82 - 114	30 - 125	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ SN7207-004P	Nickel	78.84	83 - 113	30 - 125	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ SN7207-004P	Lead	80.58	81 - 112	30 - 125	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ SN7207-004P	Copper	80.81	81 - 117	30 - 125	percent	J/UJ	M	
NHFLA-MSD2-AUG2020 (SD)/ SN7207-005P	Aluminum	-31.65	74 - 119	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-MSD2-AUG2020 (SD)/ SN7207-005P	Manganese	-679.9	84 - 114	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-MSD2-AUG2020 (SD)/ SN7207-005P	Chromium	125.0	85 - 113	30 - 125	percent	J/None	M	
NHFLA-MSD2-AUG2020 (SD)/ SN7207-005P	Calcium	187.4	81 - 116	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-MSD2-AUG2020 (SD)/ SN7207-005P	Zinc	54.84	82 - 113	30 - 125	percent	J/UJ	M	
NHFLA-MSD2-AUG2020 (SD)/ SN7207-005P	Potassium	67.30	81 - 116	30 - 125	percent	J/UJ	M	
NHFLA-MSD2-AUG2020 (SD)/ SN7207-005P	Lead	74.07	81 - 112	30 - 125	percent	J/UJ	M	
NHFLA-MSD2-AUG2020 (SD)/ SN7207-005P	Antimony	26.22	79 - 114	30 - 125	percent	J/X	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP1-AUG2020	FD	Antimony	1.30	0.270 JN	0.270 J	-	mg/kg	M/TR
NHFLA-DUP1-AUG2020	FD	Nickel	1.60	31.3 N	31.3 J	-	mg/kg	M
NHFLA-DUP1-AUG2020	FD	Potassium	160	1880 N*	1880 J	+	mg/kg	M/D
NHFLA-DUP1-AUG2020	FD	Zinc	3.20	132 N	132 J	-	mg/kg	M
NHFLA-DUP1-AUG2020	FD	Copper	4.00	26.6 N	26.6 J	-	mg/kg	M
NHFLA-DUP1-AUG2020	FD	Lead	0.800	31.2 N	31.2 J	-	mg/kg	M
NHFLA-DUP2-AUG2020	FD	Antimony	1.50	0.140 JN	0.140 J	-	mg/kg	M/TR
NHFLA-DUP2-AUG2020	FD	Potassium	93.0	2160 N	2160 J	-	mg/kg	M
NHFLA-DUP2-AUG2020	FD	Chromium	0.930	18.1 N	18.1 J	+	mg/kg	M
NHFLA-DUP2-AUG2020	FD	Zinc	1.80	110 N	110 J	-	mg/kg	M

Qualified Results associated with the MS Recovery for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP2-AUG2020	FD	Arsenic	0.740	9.72 N	9.72 J	+	mg/kg	M
NHFLA-DUP2-AUG2020	FD	Copper	2.30	29.5 N*	29.5 J	+	mg/kg	M/D
NHFLA-DUP2-AUG2020	FD	Lead	0.460	22.6 N	22.6 J		mg/kg	M
NHFLA-MW15-A-AUG2020	N	Antimony	0.910	1.37	1.37 J	-	mg/kg	M
NHFLA-MW15-A-AUG2020	N	Nickel	1.10	30.9	30.9 J	-	mg/kg	M
NHFLA-MW15-A-AUG2020	N	Potassium	92.0	1910	1910 J	+	mg/kg	M/D
NHFLA-MW15-A-AUG2020	N	Zinc	1.80	128	128 J	-	mg/kg	M
NHFLA-MW15-A-AUG2020	N	Copper	2.80	27.0	27.0 J	-	mg/kg	M
NHFLA-MW15-A-AUG2020	N	Lead	0.570	28.3	28.3 J	-	mg/kg	M
NHFLA-MW15-B-AUG2020	N	Antimony	1.40	0.270 J	0.270 J	-	mg/kg	M/TR
NHFLA-MW15-B-AUG2020	N	Potassium	170	1810	1810 J	-	mg/kg	M
NHFLA-MW15-B-AUG2020	N	Chromium	1.70	18.0	18.0 J	+	mg/kg	M
NHFLA-MW15-B-AUG2020	N	Zinc	3.40	101	101 J	-	mg/kg	M
NHFLA-MW15-B-AUG2020	N	Arsenic	1.40	9.87	9.87 J	+	mg/kg	M
NHFLA-MW15-B-AUG2020	N	Copper	4.20	30.0	30.0 J	+	mg/kg	M/D
NHFLA-MW15-B-AUG2020	N	Lead	0.850	21.2	21.2 J		mg/kg	M
NHFLA-MW15-B-AUG2020	N	Silver	1.70	0.340 J	0.340 J	+	mg/kg	M/TR

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6010, MS RPD

The objective of matrix spikes/matrix spike duplicates (MS/MSD) RPD analysis is to demonstrate acceptable method precision by the laboratory at the time of analysis. MS/MSD analyses are also performed to generate data that determines the long-term precision of the analytical method on various matrices. Non-homogenous samples can impact the apparent method precision. Summary forms were evaluated and compared to electronic data deliverables. Matrix spikes/matrix spike duplicates results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS1-AUG2020 (SD)/ SN7207-004P	Iron	21.91	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS1-AUG2020 (SD)/ SN7207-004P	Manganese	26.34	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS1-AUG2020 (SD)/ SN7207-004P	Potassium	29.77	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS2-AUG2020 (SD)/ SN7207-005P	Calcium	25.89	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS2-AUG2020 (SD)/ SN7207-005P	Copper	20.53	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS2-AUG2020 (SD)/ SN7207-005P	Manganese	27.66	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS2-AUG2020 (SD)/ SN7207-005P	Iron	27.80	< 20	< 20	rpd	J/UJ	D	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS RPD for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP1-AUG2020	FD	Iron	16.0	23000 N*	23000 J		mg/kg	D
NHFLA-DUP1-AUG2020	FD	Manganese	0.800	828 N*	828 J		mg/kg	D3/D
NHFLA-DUP1-AUG2020	FD	Potassium	160	1880 N*	1880 J	+	mg/kg	M/D
NHFLA-DUP2-AUG2020	FD	Iron	9.30	22400 N*	22400 J		mg/kg	D
NHFLA-DUP2-AUG2020	FD	Manganese	0.460	572 N*	572 J		mg/kg	D
NHFLA-DUP2-AUG2020	FD	Calcium	9.30	31100 N*	31100 J		mg/kg	D
NHFLA-DUP2-AUG2020	FD	Copper	2.30	29.5 N*	29.5 J	+	mg/kg	M/D
NHFLA-MW15-A-AUG2020	N	Iron	11.0	27800	27800 J		mg/kg	D
NHFLA-MW15-A-AUG2020	N	Manganese	0.920	2630	2630 J		mg/kg	D3/D
NHFLA-MW15-A-AUG2020	N	Potassium	92.0	1910	1910 J	+	mg/kg	M/D
NHFLA-MW15-B-AUG2020	N	Iron	17.0	24000	24000 J		mg/kg	D
NHFLA-MW15-B-AUG2020	N	Manganese	0.850	653	653 J		mg/kg	D
NHFLA-MW15-B-AUG2020	N	Calcium	17.0	36400	36400 J		mg/kg	D
NHFLA-MW15-B-AUG2020	N	Copper	4.20	30.0	30.0 J	+	mg/kg	M/D

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB7-AUG2020 (EB)/ SN7207-8	Lead	0.08200	< 0.075	< 1	ug/l	U/None	V	
NHFLA-EB7-AUG2020 (EB)/ SN7207-8	Chromium	0.8600	< 0.22	< 5	ug/l	U/None	V	
NHFLA-EB7-AUG2020 (EB)/ SN7207-8	Copper	0.8700	< 0.19	< 3	ug/l	U/None	V	
NHFLA-EB7-AUG2020 (EB)/ SN7207-8	Manganese	1.800	< 0.35	< 2	ug/l	U/None	V	
NHFLA-EB7-AUG2020 (EB)/ SN7207-8	Sodium	170.0	< 19	< 1000	ug/l	U/None	V	
NHFLA-EB7-AUG2020 (EB)/ SN7207-8	Magnesium	25.00	< 8	< 100	ug/l	U/None	V	
NHFLA-EB7-AUG2020 (EB)/ SN7207-8	Potassium	54.00	< 31	< 1000	ug/l	U/None	V	
NHFLA-EB7-AUG2020 (EB)/ SN7207-8	Aluminum	70.50	< 4.4	< 100	ug/l	U/None	V	
NHFLA-EB7-AUG2020 (EB)/ SN7207-8	Calcium	78.00	< 21	< 100	ug/l	U/None	V	
NHFLA-EB7-AUG2020 (EB)/ SN7207-8	Barium	0.3800	< 0.27	< 2	ug/l	U/None	V	
NHFLA-EB7-AUG2020 (EB)/ SN7207-8	Iron	18.00	< 13	< 100	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNH28IMW2 (LB)/ PBWNH28IMW2	Copper	0.4600	< 0.18	< 3	ug/l	U/None	L	
PBWNH28IMW2 (LB)/ PBWNH28IMW2	Magnesium	13.00	< 7.8	< 100	ug/l	U/None	L	
PBWNH28IMW2 (LB)/ PBWNH28IMW2	Sodium	41.00	< 19	< 1000	ug/l	U/None	L	
PBWNH28IMW2 (LB)/ PBWNH28IMW2	Aluminum	8.300	< 4.4	< 100	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB7-AUG2020	EB	Aluminum	100	70.5 J	100 U		ug/l	L
NHFLA-EB7-AUG2020	EB	Copper	3.00	0.870 J	2.00 U		ug/l	L
NHFLA-EB7-AUG2020	EB	Magnesium	100	25.0 J	80.0 U		ug/l	L
NHFLA-EB7-AUG2020	EB	Sodium	1000	170 J	400 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB7-AUG2020 (EB)/ SN7207-8	Chromium, Hexavalent	0.005400	< 0.00076	< 0.025	mg/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7196, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285198-1 (LB)/ WG285198-1	Chromium, Hexavalent	0.002400	< 0.00076	< 0.025	mg/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB7-AUG2020	EB	Chromium, Hexavalent	0.0250	0.00540 J	0.0125 U		mg/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS1-AUG2020 (MS)/ WG285618-3	Chromium, Hexavalent	70.74	84 - 110	30 - 125	percent	J/UJ	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP1-AUG2020	FD	Chromium, Hexavalent	0.570	0.340 U	0.340 UJ		mg/kg	M
NHFLA-MW15-A-AUG2020	N	Chromium, Hexavalent	0.570	0.340 U	0.340 UJ		mg/kg	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-DUP1-AUG2020 (FD)/ SN7207-4		8.250	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-DUP2-AUG2020 (FD)/ SN7207-5		8.140	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-MW15-A-AUG2020 (N)/ SN7207-1		8.250	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-MW15-B-AUG2020 (N)/ SN7207-2		8.140	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-MW15-C-AUG2020 (N)/ SN7207-3		8.110	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-MW6-A-AUG2020 (N)/ SN7207-6		8.010	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-MW6-B-AUG2020 (N)/ SN7207-7		8.000	< 1	< 2	days	J/X	H1	Test Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7470, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB7-AUG2020 (EB)/ SN7207-8	Mercury	0.02100	< 0.013	< 0.2	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7470, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB7-AUG2020 (MS)/ SN7207-008S	Mercury	68.20	82 - 119	30 - 125	percent	J/UJ	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW7470

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB7-AUG2020	EB	Mercury	0.200	0.0210 JN*	0.0210 J	-	ug/l	M/D/TR

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7470, MS RPD

The objective of matrix spikes/matrix spike duplicates (MS/MSD) RPD analysis is to demonstrate acceptable method precision by the laboratory at the time of analysis. MS/MSD analyses are also performed to generate data that determines the long-term precision of the analytical method on various matrices. Non-homogenous samples can impact the apparent method precision. Summary forms were evaluated and compared to electronic data deliverables. Matrix spikes/matrix spike duplicates results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB7-AUG2020 (SD)/ SN7207-008P	Mercury	0.2480	< 0.2	< 0.2	ug/l	J/UJ	D	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS RPD for SW7470

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB7-AUG2020	EB	Mercury	0.200	0.0210 JN*	0.0210 J	-	ug/l	M/D/TR

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB7-AUG2020 (EB)/ SN7207-8	Toluene	0.4400	< 0.27	< 1	ug/l	U/None	V	
NHFLA-EB7-AUG2020 (EB)/ SN7207-8	Methylene chloride	1.600	< 1.1	< 5	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285741-10 (LB)/ WG285741-10	Methylene chloride	9.600	< 7.9	< 25	ug/kg	U/None	L	
WG285988-2 (LB)/ WG285988-2	Methylene chloride	11.00	< 7.9	< 25	ug/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP1-AUG2020	FD	Methylene chloride	24.0	11.0 J	12.0 UJ		ug/kg	L
NHFLA-DUP2-AUG2020	FD	Methylene chloride	20.0	9.70 JMM	10.0 UJ		ug/kg	L/M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS1-AUG2020 (MS)/ WG285988-7	Methyl acetate	14.35	53 - 144	10 - 144	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ WG285988-7	1,2,3-Trichlorobenzene	19.35	66 - 130	10 - 130	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ WG285988-7	1,2,4-Trichlorobenzene	20.87	67 - 129	10 - 129	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ WG285988-7	2-Hexanone	32.61	53 - 145	10 - 145	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ WG285988-7	1,4-Dichlorobenzene	34.78	75 - 120	10 - 120	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ WG285988-7	1,2-Dichlorobenzene	34.78	78 - 121	10 - 121	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ WG285988-7	1,3-Dichlorobenzene	36.96	77 - 121	10 - 121	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ WG285988-7	Bromoform	41.30	67 - 132	10 - 132	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ WG285988-7	1,2-Dibromo-3-chloropropane	43.48	61 - 132	10 - 132	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ WG285988-7	Styrene	45.65	76 - 124	10 - 124	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ WG285988-7	Isopropylbenzene (Cumene)	50.00	68 - 134	10 - 134	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ WG285988-7	trans-1,3-Dichloropropene	52.17	71 - 130	10 - 130	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ WG285988-7	cis-1,3-Dichloropropene	52.17	74 - 126	10 - 126	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ WG285988-7	o-Xylene	52.17	77 - 123	10 - 123	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ WG285988-7	Chlorobenzene	52.17	79 - 120	10 - 120	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ WG285988-7	Methylcyclohexane	54.35	66 - 133	10 - 133	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ WG285988-7	Ethylbenzene	54.35	76 - 122	10 - 122	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ WG285988-7	1,1,2,2-Tetrachloroethane	56.52	70 - 124	10 - 124	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ WG285988-7	Tetrachloroethene (PCE)	56.52	73 - 128	10 - 128	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ WG285988-7	Dibromochloromethane	56.52	74 - 126	10 - 126	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ WG285988-7	m,p-Xylene	56.52	77 - 124	10 - 124	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ WG285988-7	1,2-Dibromoethane (EDB)	56.52	78 - 122	10 - 122	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ WG285988-7	4-Methyl-2-pentanone (MIBK)	58.70	65 - 135	10 - 135	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ WG285988-7	Toluene	63.04	77 - 121	10 - 121	percent	J/UJ	M	

Quality Control Outliers for test method SW8260, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS1-AUG2020 (MS)/ WG285988-7	1,1,2-Trichloroethane	65.22	78 - 121	10 - 121	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ WG285988-7	Trichloroethene (TCE)	69.57	77 - 123	10 - 123	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ WG285988-7	1,2-Dichloropropane	71.74	76 - 123	10 - 123	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ WG285988-7	Bromodichloromethane	73.91	75 - 127	10 - 127	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ WG285988-7	Benzene	73.91	77 - 121	10 - 121	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ WG285988-7	Bromochloromethane	73.91	78 - 125	10 - 125	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ WG285988-7	cis-1,2-Dichloroethene	76.09	77 - 123	10 - 123	percent	J/UJ	M	
NHFLA-MS2-AUG2020 (MS)/ WG285741-13	1,2,3-Trichlorobenzene	40.00	66 - 130	10 - 130	percent	J/UJ	M	
NHFLA-MS2-AUG2020 (MS)/ WG285741-13	1,2,4-Trichlorobenzene	45.00	67 - 129	10 - 129	percent	J/UJ	M	
NHFLA-MS2-AUG2020 (MS)/ WG285741-13	1,4-Dichlorobenzene	60.00	75 - 120	10 - 120	percent	J/UJ	M	
NHFLA-MS2-AUG2020 (MS)/ WG285741-13	1,2-Dichlorobenzene	60.00	78 - 121	10 - 121	percent	J/UJ	M	
NHFLA-MS2-AUG2020 (MS)/ WG285741-13	1,3-Dichlorobenzene	62.50	77 - 121	10 - 121	percent	J/UJ	M	
NHFLA-MS2-AUG2020 (MS)/ WG285741-13	Methylene chloride	63.66	70 - 128	10 - 128	percent	J/UJ	M	
NHFLA-MS2-AUG2020 (MS)/ WG285741-13	Styrene	70.00	76 - 124	10 - 124	percent	J/UJ	M	
NHFLA-MS2-AUG2020 (MS)/ WG285741-13	Ethylbenzene	72.50	76 - 122	10 - 122	percent	J/UJ	M	
NHFLA-MS2-AUG2020 (MS)/ WG285741-13	o-Xylene	72.50	77 - 123	10 - 123	percent	J/UJ	M	
NHFLA-MS2-AUG2020 (MS)/ WG285741-13	Chlorobenzene	72.50	79 - 120	10 - 120	percent	J/UJ	M	
NHFLA-MS2-AUG2020 (MS)/ WG285741-13	m,p-Xylene	75.00	77 - 124	10 - 124	percent	J/UJ	M	
NHFLA-MS2-AUG2020 (MS)/ WG285741-13	1,2-Dibromoethane (EDB)	75.00	78 - 122	10 - 122	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285988-8	1,2,3-Trichlorobenzene	22.22	66 - 130	10 - 130	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285988-8	1,2,4-Trichlorobenzene	22.22	67 - 129	10 - 129	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285988-8	1,4-Dichlorobenzene	31.11	75 - 120	10 - 120	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285988-8	1,3-Dichlorobenzene	31.11	77 - 121	10 - 121	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285988-8	Methyl acetate	33.33	53 - 144	10 - 144	percent	J/UJ	M	

Quality Control Outliers for test method SW8260, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MSD1-AUG2020 (SD)/ WG285988-8	1,2-Dichlorobenzene	33.33	78 - 121	10 - 121	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285988-8	Styrene	40.00	76 - 124	10 - 124	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285988-8	Isopropylbenzene (Cumene)	42.22	68 - 134	10 - 134	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285988-8	1,2-Dibromo-3-chloropropane	44.44	61 - 132	10 - 132	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285988-8	Bromoform	44.44	67 - 132	10 - 132	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285988-8	2-Hexanone	46.67	53 - 145	10 - 145	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285988-8	Ethylbenzene	46.67	76 - 122	10 - 122	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285988-8	o-Xylene	46.67	77 - 123	10 - 123	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285988-8	Chlorobenzene	46.67	79 - 120	10 - 120	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285988-8	m,p-Xylene	47.78	77 - 124	10 - 124	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285988-8	Tetrachloroethene (PCE)	48.89	73 - 128	10 - 128	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285988-8	Methylcyclohexane	53.33	66 - 133	10 - 133	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285988-8	trans-1,3-Dichloropropene	53.33	71 - 130	10 - 130	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285988-8	cis-1,3-Dichloropropene	53.33	74 - 126	10 - 126	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285988-8	1,1,2,2-Tetrachloroethane	57.78	70 - 124	10 - 124	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285988-8	Dibromochloromethane	57.78	74 - 126	10 - 126	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285988-8	Toluene	57.78	77 - 121	10 - 121	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285988-8	1,2-Dibromoethane (EDB)	57.78	78 - 122	10 - 122	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285988-8	4-Methyl-2-pentanone (MIBK)	62.22	65 - 135	10 - 135	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285988-8	Trichloroethene (TCE)	64.44	77 - 123	10 - 123	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285988-8	1,1,2-Trichloroethane	64.44	78 - 121	10 - 121	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285988-8	Bromodichloromethane	71.11	75 - 127	10 - 127	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285988-8	1,2-Dichloropropane	71.11	76 - 123	10 - 123	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285988-8	Benzene	71.11	77 - 121	10 - 121	percent	J/UJ	M	

Quality Control Outliers for test method SW8260, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MSD1-AUG2020 (SD)/ WG285988-8	cis-1,2-Dichloroethene	73.33	77 - 123	10 - 123	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285988-8	Bromochloromethane	73.33	78 - 125	10 - 125	percent	J/UJ	M	
NHFLA-MSD2-AUG2020 (SD)/ WG285741-14	1,2,3-Trichlorobenzene	39.53	66 - 130	10 - 130	percent	J/UJ	M	
NHFLA-MSD2-AUG2020 (SD)/ WG285741-14	1,2,4-Trichlorobenzene	44.19	67 - 129	10 - 129	percent	J/UJ	M	
NHFLA-MSD2-AUG2020 (SD)/ WG285741-14	Methylene chloride	61.43	70 - 128	10 - 128	percent	J/UJ	M	
NHFLA-MSD2-AUG2020 (SD)/ WG285741-14	1,2-Dichlorobenzene	62.79	78 - 121	10 - 121	percent	J/UJ	M	
NHFLA-MSD2-AUG2020 (SD)/ WG285741-14	1,4-Dichlorobenzene	65.12	75 - 120	10 - 120	percent	J/UJ	M	
NHFLA-MSD2-AUG2020 (SD)/ WG285741-14	1,3-Dichlorobenzene	67.44	77 - 121	10 - 121	percent	J/UJ	M	
NHFLA-MSD2-AUG2020 (SD)/ WG285741-14	1,2-Dibromoethane (EDB)	76.74	78 - 122	10 - 122	percent	J/UJ	M	
NHFLA-MSD2-AUG2020 (SD)/ WG285741-14	Chlorobenzene	76.74	79 - 120	10 - 120	percent	J/UJ	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP1-AUG2020	FD	1,1,2,2-Tetrachloroethane	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	1,2,3-Trichlorobenzene	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	1,2,4-Trichlorobenzene	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	1,2-Dibromo-3-chloropropane	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	1,2-Dibromoethane (EDB)	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	2-Hexanone	24.0	12.0 UMM	12.0 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	4-Methyl-2-pentanone (MIBK)	24.0	12.0 UMM	12.0 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	Bromoform	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	cis-1,3-Dichloropropene	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	Dibromochloromethane	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	Methyl acetate	4.80	2.90 UMM	2.90 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	trans-1,3-Dichloropropene	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	1,1,2-Trichloroethane	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	1,2-Dichlorobenzene	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	1,2-Dichloropropane	4.80	2.40 UMM	2.40 UJ		ug/kg	M

Qualified Results associated with the MS Recovery for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP1-AUG2020	FD	1,3-Dichlorobenzene	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	1,4-Dichlorobenzene	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	Benzene	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	Bromochloromethane	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	Bromodichloromethane	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	Chlorobenzene	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	cis-1,2-Dichloroethene	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	Ethylbenzene	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	Isopropylbenzene (Cumene)	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	m,p-Xylene	9.70	4.80 UMM	4.80 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	Methylcyclohexane	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	o-Xylene	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	Styrene	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	Tetrachloroethene (PCE)	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	Toluene	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	Trichloroethene (TCE)	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP2-AUG2020	FD	Methylene chloride	20.0	9.70 JMM	10.0 UJ		ug/kg	L/M
NHFLA-DUP2-AUG2020	FD	1,2,3-Trichlorobenzene	4.00	2.00 UMM	2.00 UJ		ug/kg	M
NHFLA-DUP2-AUG2020	FD	1,2,4-Trichlorobenzene	4.00	2.00 UMM	2.00 UJ		ug/kg	M
NHFLA-DUP2-AUG2020	FD	1,2-Dibromoethane (EDB)	4.00	2.00 UMM	2.00 UJ		ug/kg	M
NHFLA-DUP2-AUG2020	FD	1,2-Dichlorobenzene	4.00	2.00 UMM	2.00 UJ		ug/kg	M
NHFLA-DUP2-AUG2020	FD	1,3-Dichlorobenzene	4.00	2.00 UMM	2.00 UJ		ug/kg	M
NHFLA-DUP2-AUG2020	FD	1,4-Dichlorobenzene	4.00	2.00 UMM	2.00 UJ		ug/kg	M
NHFLA-DUP2-AUG2020	FD	Chlorobenzene	4.00	2.00 UMM	2.00 UJ		ug/kg	M
NHFLA-DUP2-AUG2020	FD	Ethylbenzene	4.00	2.00 UM	2.00 UJ		ug/kg	M
NHFLA-DUP2-AUG2020	FD	m,p-Xylene	8.00	4.00 UM	4.00 UJ		ug/kg	M
NHFLA-DUP2-AUG2020	FD	o-Xylene	4.00	2.00 UM	2.00 UJ		ug/kg	M
NHFLA-DUP2-AUG2020	FD	Styrene	4.00	2.00 UM	2.00 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	1,1,2,2-Tetrachloroethane	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	1,2,3-Trichlorobenzene	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	1,2,4-Trichlorobenzene	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	1,2-Dibromo-3-chloropropane	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	1,2-Dibromoethane (EDB)	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	2-Hexanone	22.0	11.0 U	11.0 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	4-Methyl-2-pentanone (MIBK)	22.0	11.0 U	11.0 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	Bromoform	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	cis-1,3-Dichloropropene	4.40	2.20 U	2.20 UJ		ug/kg	M

Qualified Results associated with the MS Recovery for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW15-A-AUG2020	N	Dibromochloromethane	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	Methyl acetate	4.40	2.60 U	2.60 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	trans-1,3-Dichloropropene	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	1,1,2-Trichloroethane	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	1,2-Dichlorobenzene	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	1,2-Dichloropropane	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	1,3-Dichlorobenzene	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	1,4-Dichlorobenzene	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	Benzene	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	Bromochloromethane	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	Bromodichloromethane	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	Chlorobenzene	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	cis-1,2-Dichloroethene	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	Ethylbenzene	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	Isopropylbenzene (Cumene)	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	m,p-Xylene	8.80	4.40 U	4.40 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	Methylcyclohexane	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	o-Xylene	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	Styrene	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	Tetrachloroethene (PCE)	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	Toluene	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	Trichloroethene (TCE)	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-B-AUG2020	N	Methylene chloride	22.0	12.0 J	12.0 J		ug/kg	M/I/TR
NHFLA-MW15-B-AUG2020	N	1,2,3-Trichlorobenzene	4.30	2.20 U	2.20 UJ		ug/kg	M/I
NHFLA-MW15-B-AUG2020	N	1,2,4-Trichlorobenzene	4.30	2.20 U	2.20 UJ		ug/kg	M/I
NHFLA-MW15-B-AUG2020	N	1,2-Dibromoethane (EDB)	4.30	2.20 U	2.20 UJ		ug/kg	M/I
NHFLA-MW15-B-AUG2020	N	1,2-Dichlorobenzene	4.30	2.20 U	2.20 UJ		ug/kg	M/I
NHFLA-MW15-B-AUG2020	N	1,3-Dichlorobenzene	4.30	2.20 U	2.20 UJ		ug/kg	M/I

Qualified Results associated with the MS Recovery for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW15-B-AUG2020	N	1,4-Dichlorobenzene	4.30	2.20 U	2.20 UJ		ug/kg	M/I
NHFLA-MW15-B-AUG2020	N	Chlorobenzene	4.30	2.20 U	2.20 UJ		ug/kg	M/I
NHFLA-MW15-B-AUG2020	N	Ethylbenzene	4.30	2.20 U	2.20 UJ		ug/kg	M/I
NHFLA-MW15-B-AUG2020	N	m,p-Xylene	8.70	4.30 U	4.30 UJ		ug/kg	M/I
NHFLA-MW15-B-AUG2020	N	o-Xylene	4.30	2.20 U	2.20 UJ		ug/kg	M/I
NHFLA-MW15-B-AUG2020	N	Styrene	4.30	2.20 U	2.20 UJ		ug/kg	M/I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW15-B-AUG2020 (N)/ SN7207-2	1,2-Dichloroethane-d4	158.0	71 - 136	10 - 136	percent	J/None	I	
NHFLA-MW15-B-AUG2020 (N)/ SN7207-2	1-Bromo-4-fluorobenzene (4-Bromofluorobenzene)	47.20	79 - 119	10 - 119	percent	J/UJ	I	
NHFLA-MW15-B-AUG2020 (N)/ SN7207-2	Dibromofluoromethane	68.80	78 - 119	10 - 119	percent	J/UJ	I	
NHFLA-MW15-C-AUG2020 (N)/ SN7207-3	1,2-Dichloroethane-d4	138.0	71 - 136	10 - 136	percent	J/None	I	
NHFLA-MW6-B-AUG2020 (N)/ SN7207-7	1,2-Dichloroethane-d4	146.0	71 - 136	10 - 136	percent	J/None	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW15-B-AUG2020	N	1,1,1-Trichloroethane	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	1,1,2,2-Tetrachloroethane	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	1,1,2-Trichloroethane	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	1,1-Dichloroethane	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	1,1-Dichloroethene	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	1,2,3-Trichlorobenzene	4.30	2.20 U	2.20 UJ		ug/kg	M/I
NHFLA-MW15-B-AUG2020	N	1,2,4-Trichlorobenzene	4.30	2.20 U	2.20 UJ		ug/kg	M/I
NHFLA-MW15-B-AUG2020	N	1,2-Dibromo-3-chloropropane	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	1,2-Dibromoethane (EDB)	4.30	2.20 U	2.20 UJ		ug/kg	M/I
NHFLA-MW15-B-AUG2020	N	1,2-Dichlorobenzene	4.30	2.20 U	2.20 UJ		ug/kg	M/I
NHFLA-MW15-B-AUG2020	N	1,2-Dichloroethane	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	1,2-Dichloropropane	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	1,3-Dichlorobenzene	4.30	2.20 U	2.20 UJ		ug/kg	M/I
NHFLA-MW15-B-AUG2020	N	1,4-Dichlorobenzene	4.30	2.20 U	2.20 UJ		ug/kg	M/I

Qualified Results associated with the Surrogate for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW15-B-AUG2020	N	2-Butanone (MEK)	22.0	11.0 U	11.0 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	2-Hexanone	22.0	11.0 U	11.0 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	4-Methyl-2-pentanone (MIBK)	22.0	11.0 U	11.0 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Acetone	22.0	5.40 J	5.40 J		ug/kg	I/TR
NHFLA-MW15-B-AUG2020	N	Benzene	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Bromochloromethane	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Bromodichloromethane	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Bromoform	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Bromomethane	8.70	4.30 U	4.30 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Carbon disulfide	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Carbon tetrachloride	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Chlorobenzene	4.30	2.20 U	2.20 UJ		ug/kg	M/I
NHFLA-MW15-B-AUG2020	N	Chloroethane	8.70	4.30 U	4.30 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Chloroform	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Chloromethane	8.70	4.30 U	4.30 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	cis-1,2-Dichloroethene	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	cis-1,3-Dichloropropene	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Cyclohexane	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Dibromochloromethane	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Dichlorodifluoromethane	8.70	4.30 U	4.30 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Ethylbenzene	4.30	2.20 U	2.20 UJ		ug/kg	M/I
NHFLA-MW15-B-AUG2020	N	Isopropylbenzene (Cumene)	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	m,p-Xylene	8.70	4.30 U	4.30 UJ		ug/kg	M/I
NHFLA-MW15-B-AUG2020	N	Methyl acetate	4.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Methyl tert-butyl ether (MTBE)	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Methylcyclohexane	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Methylene chloride	22.0	12.0 J	12.0 J		ug/kg	M/I/TR
NHFLA-MW15-B-AUG2020	N	o-Xylene	4.30	2.20 U	2.20 UJ		ug/kg	M/I

Qualified Results associated with the Surrogate for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW15-B-AUG2020	N	Styrene	4.30	2.20 U	2.20 UJ		ug/kg	M/I
NHFLA-MW15-B-AUG2020	N	Tetrachloroethene (PCE)	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Toluene	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	trans-1,2-Dichloroethene	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	trans-1,3-Dichloropropene	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Trichloroethene (TCE)	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Trichlorofluoromethane	8.70	4.30 U	4.30 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Vinyl chloride	8.70	4.30 U	4.30 UJ		ug/kg	I
NHFLA-MW15-C-AUG2020	N	Methylene chloride	29.0	11.0 J	11.0 J	+	ug/kg	I/TR
NHFLA-MW6-B-AUG2020	N	Methylene chloride	25.0	12.0 J	12.0 J	+	ug/kg	I/TR

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-DUP1-AUG2020 (FD)/ SN7207-4		14.40	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL
NHFLA-DUP2-AUG2020 (FD)/ SN7207-5		14.32	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Trip Blank

The purpose of trip blanks is to determine the existence and magnitude of cross-contamination problems resulting from the shipping of samples. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in trip blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-TB7-AUG2020 (TB)/ SN7207-9	Methylene chloride	1.400	< 1.1	< 5	ug/l	U/None	T	
NHFLA-TB8-AUG2020 (TB)/ SN7207-10	Methylene chloride	1.400	< 1.1	< 5	ug/l	U/None	T	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB7-AUG2020 (EB)/ SN7207-8	Diethyl phthalate	3.700	< 1.9	< 9.4	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285192-1 (LB)/ WG285192-1	Bis(2-ethylhexyl)phthalate	2800	< 98	< 330	ug/kg	U/None	L	
WG285635-1RA (LB)/ WG285635-1RA	Bis(2-ethylhexyl)phthalate	4100	< 98	< 330	ug/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP1-AUG2020	FD	Bis(2-ethylhexyl)phthalate	370	1800 BLMM	1800 J	+	ug/kg	L/C/M
NHFLA-DUP2-AUG2020	FD	Bis(2-ethylhexyl)phthalate	320	1300 BLMM	1300 J	+	ug/kg	L/C/M
NHFLA-MW15-A-AUG2020	N	Bis(2-ethylhexyl)phthalate	360	1200 BL	1200 J	+	ug/kg	L/C/M
NHFLA-MW15-B-AUG2020	N	Bis(2-ethylhexyl)phthalate	360	1500 BL	1500 J	+	ug/kg	L/C/M
NHFLA-MW15-C-AUG2020	N	Bis(2-ethylhexyl)phthalate	420	980 BL	980 J	+	ug/kg	L/C
NHFLA-MW6-A-AUG2020	N	Bis(2-ethylhexyl)phthalate	390	2100 BL	2100 J	+	ug/kg	L/C
NHFLA-MW6-B-AUG2020	N	Bis(2-ethylhexyl)phthalate	370	1400 BL	1400 J		ug/kg	L/C/I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285183-2 (BS)/ WG285183-2	Benzaldehyde	310.0	10 - 189	10 - 189	percent	J/None	C	
WG285183-2 (BS)/ WG285183-2	Caprolactam	7.680	10 - 86	10 - 86	percent	J/X	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB7-AUG2020	EB	Caprolactam	9.40	7.10 UL	7.10 X		ug/l	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285192-2 (BS)/ WG285192-2	Atrazine	10.18	47 - 127	10 - 127	percent	J/UJ	C	
WG285192-2 (BS)/ WG285192-2	3,3'-Dichlorobenzidine	132.9	22 - 121	10 - 121	percent	J/None	C	
WG285192-2 (BS)/ WG285192-2	Bis(2-ethylhexyl)phthalate	189.2	51 - 133	10 - 133	percent	J/None	C	
WG285192-2 (BS)/ WG285192-2	Benzaldehyde	316.8	10 - 134	10 - 134	percent	J/None	C	
WG285192-2 (BS)/ WG285192-2	Caprolactam	34.07	46 - 117	10 - 117	percent	J/UJ	C	
WG285635-2RA (BS)/ WG285635-2RA	Benzaldehyde	321.0	10 - 134	10 - 134	percent	J/None	C	
WG285635-2RA (BS)/ WG285635-2RA	Bis(2-ethylhexyl)phthalate	350.9	51 - 133	10 - 133	percent	J/None	C	
WG285635-2RA (BS)/ WG285635-2RA	Caprolactam	36.83	46 - 117	10 - 117	percent	J/UJ	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP1-AUG2020	FD	Atrazine	370	280 UL	280 UJ		ug/kg	C
NHFLA-DUP1-AUG2020	FD	Bis(2-ethylhexyl)phthalate	370	1800 BLMM	1800 J	+	ug/kg	L/C/M
NHFLA-DUP1-AUG2020	FD	Caprolactam	370	280 UL	280 UJ		ug/kg	C
NHFLA-DUP2-AUG2020	FD	Atrazine	320	240 UL	240 UJ		ug/kg	C
NHFLA-DUP2-AUG2020	FD	Bis(2-ethylhexyl)phthalate	320	1300 BLMM	1300 J	+	ug/kg	L/C/M
NHFLA-DUP2-AUG2020	FD	Caprolactam	320	240 UL	240 UJ		ug/kg	C
NHFLA-MW15-A-AUG2020	N	Atrazine	360	270 UL	270 UJ		ug/kg	C
NHFLA-MW15-A-AUG2020	N	Bis(2-ethylhexyl)phthalate	360	1200 BL	1200 J	+	ug/kg	L/C/M
NHFLA-MW15-A-AUG2020	N	Caprolactam	360	270 UL	270 UJ		ug/kg	C
NHFLA-MW15-B-AUG2020	N	Atrazine	360	270 UL	270 UJ		ug/kg	C
NHFLA-MW15-B-AUG2020	N	Bis(2-ethylhexyl)phthalate	360	1500 BL	1500 J	+	ug/kg	L/C/M
NHFLA-MW15-B-AUG2020	N	Caprolactam	360	270 UL	270 UJ		ug/kg	C
NHFLA-MW15-C-AUG2020	N	Atrazine	420	320 UL	320 UJ		ug/kg	C
NHFLA-MW15-C-AUG2020	N	Bis(2-ethylhexyl)phthalate	420	980 BL	980 J	+	ug/kg	L/C
NHFLA-MW15-C-AUG2020	N	Caprolactam	420	320 UL	320 UJ		ug/kg	C

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW6-A-AUG2020	N	Atrazine	390	290 UL	290 UJ		ug/kg	C
NHFLA-MW6-A-AUG2020	N	Bis(2-ethylhexyl)phthalate	390	2100 BL	2100 J	+	ug/kg	L/C
NHFLA-MW6-A-AUG2020	N	Caprolactam	390	290 UL	290 UJ		ug/kg	C
NHFLA-MW6-B-AUG2020	N	Atrazine	370	280 UL	280 UJ		ug/kg	C/I
NHFLA-MW6-B-AUG2020	N	Bis(2-ethylhexyl)phthalate	370	1400 BL	1400 J		ug/kg	L/C/I
NHFLA-MW6-B-AUG2020	N	Caprolactam	370	280 UL	280 UJ		ug/kg	C/I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS1-AUG2020 (MS)/ WG285635-3	Bis(2-ethylhexyl)phthalate	190.1	51 - 133	10 - 133	percent	J/None	M	
NHFLA-MS1-AUG2020 (MS)/ WG285635-3	Benzaldehyde	494.5	10 - 34	10 - 134	percent	J/None	M	
NHFLA-MS2-AUG2020 (MS)/ WG285635-5	Bis(2-ethylhexyl)phthalate	413.6	51 - 133	10 - 133	percent	J/None	M	
NHFLA-MS2-AUG2020 (MS)/ WG285635-5	Benzaldehyde	516.5	10 - 34	10 - 134	percent	J/None	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285635-4	4-Chloroaniline	16.57	17 - 106	10 - 106	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285635-4	Bis(2-ethylhexyl)phthalate	240.7	51 - 133	10 - 133	percent	J/None	M	
NHFLA-MSD1-AUG2020 (SD)/ WG285635-4	Benzaldehyde	453.0	10 - 34	10 - 134	percent	J/None	M	
NHFLA-MSD2-AUG2020 (SD)/ WG285635-6	Bis(2-ethylhexyl)phthalate	382.7	51 - 133	10 - 133	percent	J/None	M	
NHFLA-MSD2-AUG2020 (SD)/ WG285635-6	Benzaldehyde	483.5	10 - 34	10 - 134	percent	J/None	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP1-AUG2020	FD	Bis(2-ethylhexyl)phthalate	370	1800 BLMM	1800 J	+	ug/kg	L/C/M
NHFLA-DUP1-AUG2020	FD	4-Chloroaniline	370	280 UM	280 UJ		ug/kg	M
NHFLA-DUP2-AUG2020	FD	Bis(2-ethylhexyl)phthalate	320	1300 BLMM	1300 J	+	ug/kg	L/C/M
NHFLA-MW15-A-AUG2020	N	Bis(2-ethylhexyl)phthalate	360	1200 BL	1200 J	+	ug/kg	L/C/M
NHFLA-MW15-A-AUG2020	N	4-Chloroaniline	360	270 U	270 UJ		ug/kg	M
NHFLA-MW15-B-AUG2020	N	Bis(2-ethylhexyl)phthalate	360	1500 BL	1500 J	+	ug/kg	L/C/M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW6-B-AUG2020 (N)/ SN7207-7	Nitrobenzene-d5	31.20	37 - 122	10 - 122	percent	J/UJ	I	
NHFLA-MW6-B-AUG2020 (N)/ SN7207-7	2,4,6-Tribromophenol	33.90	39 - 132	10 - 132	percent	J/UJ	I	
NHFLA-MW6-B-AUG2020 (N)/ SN7207-7	2-Fluorophenol	34.20	35 - 115	10 - 115	percent	J/UJ	I	
NHFLA-MW6-B-AUG2020 (N)/ SN7207-7	2-Fluorobiphenyl	36.60	44 - 115	10 - 115	percent	J/UJ	I	
NHFLA-MW6-B-AUG2020 (N)/ SN7207-7	Terphenyl-d14	46.20	54 - 127	10 - 127	percent	J/UJ	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW6-B-AUG2020	N	1,2,4,5-Tetrachlorobenzene	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	1,4-Dioxane (p-Dioxane)	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	2,2'-Oxybis(1-chloropropane)	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	2,4,5-Trichlorophenol	920	690 U	690 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	2,4,6-Trichlorophenol	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	2,4-Dichlorophenol	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	2,4-Dimethylphenol	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	2,4-Dinitrophenol	920	690 U	690 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	2,4-Dinitrotoluene	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	2,6-Dinitrotoluene	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	2-Chloronaphthalene	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	2-Chlorophenol	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	2-Methylphenol (o-Cresol)	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	2-Nitroaniline	920	690 U	690 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	2-Nitrophenol	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	3,3'-Dichlorobenzidine	370	280 UL	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	3-Nitroaniline	920	690 U	690 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	4,6-Dinitro-2-methylphenol	920	690 U	690 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	4-Bromophenyl phenyl ether	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	4-Chloro-3-methylphenol	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	4-Chloroaniline	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	4-Chlorophenyl phenyl ether	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	4-Nitroaniline	920	690 U	690 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	4-Nitrophenol	920	690 U	690 UJ		ug/kg	I

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW6-B-AUG2020	N	Acetophenone	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Atrazine	370	280 UL	280 UJ		ug/kg	C/I
NHFLA-MW6-B-AUG2020	N	Benzaldehyde	370	280 UL	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Benzyl butyl phthalate	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Biphenyl (Diphenyl)	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Bis(2-chloroethoxy)methane	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Bis(2-ethylhexyl)phthalate	370	1400 BL	1400 J		ug/kg	L/C/I
NHFLA-MW6-B-AUG2020	N	Caprolactam	370	280 UL	280 UJ		ug/kg	C/I
NHFLA-MW6-B-AUG2020	N	Carbazole	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Cresols, m- & p-	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Dibenzofuran	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Diethyl phthalate	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Dimethyl phthalate	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Di-n-butyl phthalate	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	di-n-Octyl phthalate	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Hexachlorobenzene	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Hexachlorobutadiene	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Hexachlorocyclopentadiene	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Hexachloroethane	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Isophorone	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Nitrobenzene	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	N-Nitrosodi-n-propylamine	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	N-Nitrosodiphenylamine	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Pentachlorophenol	920	690 U	690 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Phenol	370	280 U	280 UJ		ug/kg	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

		Location ID	**NHFLA-MW15**			
		Field sample ID	**NHFLA-MS1-**	**NHFLA-MS2-**	**NHFLA-MW15**	**NHFLA-MW15**
		Lab Sample ID	WG285618-3	WG285618-5	SN7207-1	SN7207-2
		Sample Type	MS	MS	Parent	Parent
		Sample Date	8/26/20	8/26/20	8/26/20	8/26/20
		Analysis Information	25X	25X	1.2X	1.2X
SN7207						
Chromium, Hexavalent (Colorimetric) (SW7196/SW3060)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MS Percent Recovery**		
Chromium, Hexavalent (mg/kg)	84-110	20	70.7	94.3	0.570 UJ	0.540 U

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-MW15							
	Field sample ID		NHFLA-MS1-	NHFLA-MS2-	NHFLA-MSD1-AUG2020		NHFLA-MSD2-AUG2020		NHFLA-MW15-A-AUG2020	
	Lab Sample ID		WG285634-3	WG285634-5	WG285634-4		WG285634-6		SN7207-1	SN7207-1
	Sample Type		MS	MS	MSD		MSD		Parent	Parent
	Sample Date		8/26/20	8/26/20	8/26/20		8/26/20		8/26/20	8/26/20
	Analysis Information		1X	1X	1X		1X		1X	40X
SN7207										
GC/MS-SIM Analysis by SW8270 (BNASIM/SW3550)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	**MSD Percent Recovery**	**RPD**		
2-Methylnaphthalene (µg/kg)	39-114	20	143	81.7	61.5	53.2	67.0	16.2	**32.0 J**	-
Acenaphthene (µg/kg)	44-111	20	-16.0	0.00	105	147	110	55.6	-	640 J
Acenaphthylene (µg/kg)	39-116	20	49.8	59.3	47.5	8.51	53.4	6.90	17.0 J	-
Anthracene (µg/kg)	50-114	20	46.8	44.9	105	154	106	51.6	-	**2200 J**
Benzo(a)anthracene (µg/kg)	54-122	20	9.54	14.4	101	146	98.8	56.9	-	**3700 J**
Benzo(a)pyrene (µg/kg)	50-125	20	52.1	17.4	106	132	91.2	40.8	-	**3000 J**
Benzo(b)fluoranthene (µg/kg)	53-128	20	16.9	37.1	97.6	125	98.6	39.3	-	**3600 J**
Benzo(g,h,i)perylene (µg/kg)	49-127	20	42.4	-25.5	102	126	58.0	35.6	-	**1700 J**
Benzo(k)fluoranthene (µg/kg)	56-123	20	63.0	39.3	110	126	95.9	25.5	-	**1600 J**
Chrysene (µg/kg)	57-118	20	44.8	5.30	104	136	96.0	54.0	-	**3700 J**
Dibenz(a,h)anthracene (µg/kg)	50-129	20	-33.6	149	124	122	34.6	24.0	**320 J**	-
Fluoranthene (µg/kg)	55-119	20	70.9	84.7	108	141	110	43.9	-	**9600 J**
Fluorene (µg/kg)	47-114	20	9.03	20.2	108	148	113	54.5	-	700 J
Indeno(1,2,3-c,d)pyrene (µg/kg)	49-130	20	40.8	-14.6	102	120	74.0	38.7	-	**1500 J**
Naphthalene (µg/kg)	38-111	20	137	95.8	54.5	62.9	42.4	42.5	**24.0 J**	-
Phenanthrene (µg/kg)	49-113	20	46.2	43.6	105	152	96.9	55.7	-	**7400 J**

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		**NHFLA-MW15**	
	Field sample ID		**NHFLA-MW15-B-AUG2020**	
	Lab Sample ID		SN7207-2	SN7207-2
	Sample Type		Parent	Parent
	Sample Date		8/26/20	8/26/20
	Analysis Information		1X	8X
SN7207				
GC/MS-SIM Analysis by SW8270 (BNASIM/SW3550)	**Recovery Limit**	**RPD Limit**		
2-Methylnaphthalene (µg/kg)	39-114	20	2.40 J	-
Acenaphthene (µg/kg)	44-111	20	**230 J**	-
Acenaphthylene (µg/kg)	39-116	20	4.30 J	-
Anthracene (µg/kg)	50-114	20	**510 J**	-
Benzo(a)anthracene (µg/kg)	54-122	20	-	**850 J**
Benzo(a)pyrene (µg/kg)	50-125	20	-	**670 J**
Benzo(b)fluoranthene (µg/kg)	53-128	20	-	**840 J**
Benzo(g,h,i)perylene (µg/kg)	49-127	20	**390 J**	-
Benzo(k)fluoranthene (µg/kg)	56-123	20	**360 J**	-
Chrysene (µg/kg)	57-118	20	-	**820 J**
Dibenz(a,h)anthracene (µg/kg)	50-129	20	**100 J**	-
Fluoranthene (µg/kg)	55-119	20	-	**2200 J**
Fluorene (µg/kg)	47-114	20	**230 J**	-
Indeno(1,2,3-c,d)pyrene (µg/kg)	49-130	20	**350 J**	-
Naphthalene (µg/kg)	38-111	20	**27.0**	-
Phenanthrene (µg/kg)	49-113	20	-	**1900 J**

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-MW15							
	Field sample ID		NHFLA-MS1-	NHFLA-MS2-	NHFLA-MSD1-AUG2020		NHFLA-MSD2-AUG2020		NHFLA-MW15-A-AUG2020	
	Lab Sample ID		WG285634-3	WG285634-5	WG285634-4		WG285634-6		SN7207-1	SN7207-1
	Sample Type		MS	MS	MSD		MSD		Parent	Parent
	Sample Date		8/26/20	8/26/20	8/26/20		8/26/20		8/26/20	8/26/20
	Analysis Information		1X	1X	1X		1X		1X	40X
GC/MS-SIM Analysis by SW8270 (BNASIM/SW3550)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	**MSD Percent Recovery**	**RPD**		
Pyrene (µg/kg)	55-117	20	46.3	29.5	105	146	104	57.6	-	**8300 J**

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

		Location ID	**NHFLA-MW15**	
		Field sample ID	**NHFLA-MW15-B-AUG2020**	
		Lab Sample ID	SN7207-2	SN7207-2
		Sample Type	Parent	Parent
		Sample Date	8/26/20	8/26/20
		Analysis Information	1X	8X
GC/MS-SIM Analysis by SW8270 (BNASIM/SW3550)	**Recovery Limit**	**RPD Limit**		
Pyrene (µg/kg)	55-117	20	-	**2000 J**

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-MW15							
	Field sample ID		NHFLA-MS1-	NHFLA-MS2-	NHFLA-MSD1-AUG2020		NHFLA-MSD2-AUG2020		NHFLA-MW15	NHFLA-MW15
	Lab Sample ID		WG285650-4	WG285650-6	WG285650-5		WG285650-7		SN7207-1	SN7207-2
	Sample Type		MS	MS	MSD		MSD		Parent	Parent
	Sample Date		8/26/20	8/26/20	8/26/20		8/26/20		8/26/20	8/26/20
	Analysis Information		1X	1X	1X		1X		1X	1X
SN7207										
Lloyd Kahn Method for the Determination of Total Organic Carbon in Sediment, USEPA Region II Method (LYDKHN/METHOD)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	**MSD Percent Recovery**	**RPD**		
Total Organic Carbon (µg/g)	75-125	30	108	117	98.2	4.55	103	21.2	**29000**	**14000**

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-MW15							
	Field sample ID		NHFLA-MS1-	NHFLA-MS2-	NHFLA-MSD1-AUG2020		NHFLA-MSD2-AUG2020		NHFLA-MW15	NHFLA-MW15
	Lab Sample ID		SN7207-004S	SN7207-005S	SN7207-004P		SN7207-005P		SN7207-1	SN7207-2
	Sample Type		MS	MS	MSD		MSD		Parent	Parent
	Sample Date		8/26/20	8/26/20	8/26/20		8/26/20		8/26/20	8/26/20
	Analysis Information		1X	1X	1X		1X		1X	1X
SN7207										
Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique) (SW7471/METHOD)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	**MSD Percent Recovery**	**RPD**		
Mercury (mg/kg)	80-124	20	107	98.8	106	0.833	104	4.44	**0.0500**	**0.0390**

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID	NHFLA-MW15							
	Field sample ID	NHFLA-MS1-	NHFLA-MS2-	NHFLA-MSD1-AUG2020		NHFLA-MSD2-AUG2020		NHFLA-MW15	NHFLA-MW15
	Lab Sample ID	WG285635-3	WG285635-5	WG285635-4		WG285635-6		SN7207-1	SN7207-2
	Sample Type	MS	MS	MSD		MSD		Parent	Parent
	Sample Date	8/26/20	8/26/20	8/26/20		8/26/20		8/26/20	8/26/20
	Analysis Information	1X	1X	1X		1X		1X	1X
SN7207									
Semivolatile Organic Compounds by Capillary GC/MS (SW8270/SW3550)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	**MSD Percent Recovery**	**RPD**		
1,2,4,5-Tetrachlorobenzene (µg/kg)	37-119	20	71.4	71.4	66.3	8.00	65.9	8.00	360 U	360 U
1,4-Dioxane (p-Dioxane) (µg/kg)	10-70	20	35.7	31.3	32.6	9.68	28.6	9.17	360 U	360 U
2,2'-Oxybis(1-chloropropane) (µg/kg)	33-131	20	54.9	48.4	45.3	19.8	46.2	4.65	360 U	360 U
2,4,5-Trichlorophenol (µg/kg)	41-124	20	76.9	74.2	74.8	3.64	68.7	7.69	880 U	900 U
2,4,6-Trichlorophenol (µg/kg)	39-126	20	71.4	76.9	74.8	3.77	74.2	3.64	360 U	360 U
2,4-Dichlorophenol (µg/kg)	40-122	20	74.2	71.4	72.0	3.77	68.7	3.92	360 U	360 U
2,4-Dimethylphenol (µg/kg)	30-127	20	54.9	49.5	41.6	28.6	44.0	11.8	360 U	360 U
2,4-Dinitrophenol (µg/kg)	17-77	20	46.7	49.5	49.9	5.71	46.7	5.71	880 U	900 U
2,4-Dinitrotoluene (µg/kg)	48-126	20	76.9	76.9	77.3	0.00	71.4	7.41	360 U	360 U
2,6-Dinitrotoluene (µg/kg)	46-124	20	76.9	76.9	77.3	0.00	71.4	7.41	360 U	360 U
2-Chloronaphthalene (µg/kg)	41-114	20	60.4	60.4	60.8	0.00	60.4	0.00	360 U	360 U
2-Chlorophenol (µg/kg)	34-121	20	68.7	68.7	66.5	4.08	63.2	8.33	360 U	360 U
2-Methylphenol (o-Cresol) (µg/kg)	32-122	20	68.7	65.9	66.5	4.08	65.9	0.00	360 U	360 U
2-Nitroaniline (µg/kg)	44-127	20	76.9	76.9	71.8	7.41	76.9	0.00	880 U	900 U
2-Nitrophenol (µg/kg)	36-123	20	71.4	68.7	69.3	3.92	68.7	0.00	360 U	360 U
3,3'-Dichlorobenzidine (µg/kg)	22-121	20	76.9	87.9	60.8	24.0	87.9	0.00	360 U	360 U

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID	NHFLA-MW15							
	Field sample ID	NHFLA-MS1-	NHFLA-MS2-	NHFLA-MSD1-AUG2020		NHFLA-MSD2-AUG2020		NHFLA-MW15	NHFLA-MW15
	Lab Sample ID	WG285635-3	WG285635-5	WG285635-4		WG285635-6		SN7207-1	SN7207-2
	Sample Type	MS	MS	MSD		MSD		Parent	Parent
	Sample Date	8/26/20	8/26/20	8/26/20		8/26/20		8/26/20	8/26/20
	Analysis Information	1X	1X	1X		1X		1X	1X
Semivolatile Organic Compounds by Capillary GC/MS (SW8270/SW3550)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	**MSD Percent Recovery**	**RPD**		
3-Nitroaniline (µg/kg)	33-119	20	50.5	48.4	44.8	12.7	49.5	2.25	880 U	900 U
4,6-Dinitro-2-methylphenol (µg/kg)	29-132	20	71.4	71.4	72.0	0.00	65.9	8.00	880 U	900 U
4-Bromophenyl phenyl ether (µg/kg)	46-124	20	71.4	76.9	77.3	7.41	71.4	7.41	360 U	360 U
4-Chloro-3-methylphenol (µg/kg)	45-122	20	76.9	74.2	74.8	3.64	71.4	3.77	360 U	360 U
4-Chloroaniline (µg/kg)	17-106	20	26.4	23.1	16.6	46.2	26.9	15.4	360 UJ	360 U
4-Chlorophenyl phenyl ether (µg/kg)	45-121	20	76.9	76.9	77.3	0.00	71.4	7.41	360 U	360 U
4-Nitroaniline (µg/kg)	14-82	20	65.9	54.9	60.8	8.70	71.4	26.1	880 U	900 U
4-Nitrophenol (µg/kg)	30-132	20	79.7	76.9	77.6	3.51	76.9	0.00	880 U	900 U
Acetophenone (µg/kg)	33-115	20	71.4	65.9	66.3	8.00	65.9	0.00	360 U	360 U
Atrazine (µg/kg)	47-127	20	98.9	98.9	99.4	0.00	93.4	5.71	360 UJ	360 UJ
Benzaldehyde (µg/kg)	10-34	20	495	516	453	9.30	484	6.59	360 U	360 U
Benzyl butyl phthalate (µg/kg)	48-132	20	82.4	82.4	82.9	0.00	76.9	6.90	360 U	360 U
Biphenyl (Diphenyl) (µg/kg)	40-117	20	71.4	76.9	71.8	0.00	76.9	0.00	360 U	360 U
Bis(2-chloroethoxy) methane (µg/kg)	36-121	20	60.4	60.4	60.8	0.00	60.4	0.00	360 U	360 U
Bis(2-chloroethyl) ether (2-Chloroethyl ether) (µg/kg)	31-120	20	71.4	71.4	71.8	0.00	65.9	8.00	360 U	360 U
Bis(2-ethylhexyl) phthalate (µg/kg)	51-133	20	190	414	241	18.8	383	6.29	**1200 J**	**1500 J**
Caprolactam (µg/kg)	46-117	20	76.9	76.9	71.8	7.41	76.9	0.00	360 UJ	360 UJ

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID	NHFLA-MW15							
	Field sample ID	NHFLA-MS1-	NHFLA-MS2-	NHFLA-MSD1-AUG2020		NHFLA-MSD2-AUG2020		NHFLA-MW15	NHFLA-MW15
	Lab Sample ID	WG285635-3	WG285635-5	WG285635-4		WG285635-6		SN7207-1	SN7207-2
	Sample Type	MS	MS	MSD		MSD		Parent	Parent
	Sample Date	8/26/20	8/26/20	8/26/20		8/26/20		8/26/20	8/26/20
	Analysis Information	1X	1X	1X		1X		1X	1X
Semivolatile Organic Compounds by Capillary GC/MS (SW8270/SW3550)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	**MSD Percent Recovery**	**RPD**		
Carbazole (µg/kg)	50-123	20	62.2	79.9	62.7	0.00	73.6	6.90	**710**	230 J
Cresols, m- & p- (µg/kg)	34-119	20	71.4	68.7	66.5	8.00	65.9	4.08	360 U	360 U
Dibenzofuran (µg/kg)	44-120	20	71.6	75.4	72.1	0.00	75.4	0.00	340 J	110 J
Diethyl phthalate (µg/kg)	50-124	20	71.4	76.9	77.3	7.41	71.4	7.41	360 U	360 U
Dimethyl phthalate (µg/kg)	48-124	20	71.4	76.9	71.8	0.00	76.9	0.00	360 U	360 U
Di-n-butyl phthalate (µg/kg)	51-128	20	76.9	76.9	77.3	0.00	71.4	7.41	360 U	360 U
di-n-Octyl phthalate (µg/kg)	45-140	20	82.4	87.9	88.4	6.45	93.4	6.06	360 U	360 U
Hexachlorobenzene (µg/kg)	45-122	20	71.4	76.9	71.8	0.00	71.4	7.41	360 U	360 U
Hexachlorobutadiene (µg/kg)	32-123	20	65.9	60.4	60.8	8.70	60.4	0.00	360 U	360 U
Hexachlorocyclopentadiene (µg/kg)	10-70	20	23.6	22.0	21.0	12.3	20.3	7.79	360 U	360 U
Hexachloroethane (µg/kg)	28-117	20	60.4	60.4	55.2	9.52	54.9	9.52	360 U	360 U
Isophorone (µg/kg)	30-122	20	71.4	60.4	66.3	8.00	60.4	0.00	360 U	360 U
Nitrobenzene (µg/kg)	34-122	20	71.4	65.9	71.8	0.00	65.9	0.00	360 U	360 U
N-Nitrosodi-n-propylamine (µg/kg)	36-120	20	65.9	65.9	66.3	0.00	60.4	8.70	360 U	360 U
N-Nitrosodiphenylamine (µg/kg)	38-127	20	60.4	60.4	60.8	0.00	60.4	0.00	360 U	360 U
Pentachlorophenol (µg/kg)	25-133	20	71.4	71.4	74.8	3.77	68.7	3.92	880 U	900 U
Phenol (µg/kg)	34-121	20	68.7	68.7	66.5	4.08	63.2	8.33	360 U	360 U

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-MW15							
	Field sample ID		NHFLA-MS1-AUG2020		NHFLA-MS2-AUG2020		NHFLA-MSD1-AUG2020			
	Lab Sample ID		SN7207-004S	SN7207-004S	SN7207-005S	SN7207-005S	SN7207-004P	SN7207-004P		
	Sample Type		MS	MS	MS	MS	MSD	MSD		
	Sample Date		8/26/20	8/26/20	8/26/20	8/26/20	8/26/20	8/26/20		
	Analysis Information		1X	2X	1X	2X	1X	2X	1X	2X
SN7207										
Trace Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry (SW6010/SW3050)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MS Percent Recovery**	**MS Percent Recovery**	**MS Percent Recovery**	**MSD Percent Recovery**	**MSD Percent Recovery**	**RPD**	**RPD**
Aluminum (mg/kg)	74-119	20	714	-	88.6	-	667	-	1.18	-
Antimony (mg/kg)	79-114	20	23.2	-	-	26.5	16.7	-	19.4	-
Arsenic (mg/kg)	82-111	20	89.3	-	-	129	91.1	-	1.01	-
Barium (mg/kg)	83-113	20	88.9	-	90.8	-	90.3	-	1.10	-
Beryllium (mg/kg)	83-113	20	87.9	-	92.8	-	92.5	-	4.26	-
Cadmium (mg/kg)	82-113	20	87.0	-	-	92.4	86.3	-	0.826	-
Calcium (mg/kg)	81-116	20	-155	-	29.6	-	-118	-	4.50	-
Chromium (mg/kg)	85-113	20	105	-	-	129	107	-	2.50	-
Cobalt (mg/kg)	85-112	20	88.5	-	-	98.9	85.2	-	3.06	-
Copper (mg/kg)	81-117	20	79.0	-	-	136	80.8	-	1.03	-
Iron (mg/kg)	81-118	20	-	184	-	-364	-	84.7	-	21.9
Lead (mg/kg)	81-112	20	70.5	-	-	119	80.6	-	3.61	-
Magnesium (mg/kg)	78-115	20	1710	-	-	49.0	1710	-	0.00	-
Manganese (mg/kg)	84-114	20	102	-	-	-65.7	87.6	-	26.3	-
Nickel (mg/kg)	83-113	20	81.6	-	-	107	78.8	-	1.99	-
Potassium (mg/kg)	81-116	20	179	-	95.2	-	86.0	-	29.8	-

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

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%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
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Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-MW15						
	Field sample ID		NHFLA-MSD2-AUG2020				NHFLA-MW15-A-AUG2020		NHFLA-MW15
	Lab Sample ID		SN7207-005P	SN7207-005P			SN7207-1	SN7207-1	SN7207-2
	Sample Type		MSD	MSD			Parent	Parent	Parent
	Sample Date		8/26/20	8/26/20			8/26/20	8/26/20	8/26/20
	Analysis Information		1X	2X	1X	2X	1X	2X	2X
SN7207									
Trace Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry (SW6010/SW3050)	**Recovery Limit**	**RPD Limit**	**MSD Percent Recovery**	**MSD Percent Recovery**	**RPD**	**RPD**			
Aluminum (mg/kg)	74-119	20	-31.6	-	14.4	-	**14100**	-	**12700**
Antimony (mg/kg)	79-114	20	-	26.2	-	1.88	**1.37 J**	-	0.270 J
Arsenic (mg/kg)	82-111	20	93.9	-	16.5	-	**10.0**	-	**9.87 J**
Barium (mg/kg)	83-113	20	87.5	-	2.99	-	**85.3**	-	**68.0**
Beryllium (mg/kg)	83-113	20	90.6	-	2.59	-	**0.991**	-	0.757 J
Cadmium (mg/kg)	82-113	20	90.2	-	3.26	-	0.379 J	-	0.215 J
Calcium (mg/kg)	81-116	20	187	-	25.9	-	**37000**	-	**36400 J**
Chromium (mg/kg)	85-113	20	125	-	2.17	-	-	**86.6 J**	**18.0 J**
Cobalt (mg/kg)	85-112	20	88.4	-	9.58	-	**11.1**	-	**10.2**
Copper (mg/kg)	81-117	20	87.0	-	20.5	-	**27.0 J**	-	**30.0 J**
Iron (mg/kg)	81-118	20	113	-	27.8	-	**27800 J**	-	**24000 J**
Lead (mg/kg)	81-112	20	74.1	-	15.3	-	**28.3 J**	-	**21.2 J**
Magnesium (mg/kg)	78-115	20	85.0	-	7.50	-	**6600**	-	**8510**
Manganese (mg/kg)	84-114	20	-680	-	27.7	-	-	**2630 J**	**653 J**
Nickel (mg/kg)	83-113	20	88.2	-	11.1	-	**30.9 J**	-	**35.4**
Potassium (mg/kg)	81-116	20	67.3	-	12.7	-	**1910 J**	-	**1810 J**

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MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
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Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID	NHFLA-MW15							
	Field sample ID	NHFLA-MS1-AUG2020		NHFLA-MS2-AUG2020		NHFLA-MSD1-AUG2020			
	Lab Sample ID	SN7207-004S	SN7207-004S	SN7207-005S	SN7207-005S	SN7207-004P	SN7207-004P		
	Sample Type	MS	MS	MS	MS	MSD	MSD		
	Sample Date	8/26/20	8/26/20	8/26/20	8/26/20	8/26/20	8/26/20		
	Analysis Information	1X	2X	1X	2X	1X	2X	1X	2X
Trace Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry (SW6010/SW3050)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MS Percent Recovery**	**MS Percent Recovery**	**MS Percent Recovery**	**MSD Percent Recovery**	**MSD Percent Recovery**	**RPD**	**RPD**
Selenium (mg/kg)	78-111	20	96.3	-	-	97.9	95.4	-	0.851	-
Silver (mg/kg)	82-112	20	92.5	-	-	120	-	95.9	-	22.1
Sodium (mg/kg)	83-118	20	92.0	-	93.5	-	93.6	-	1.32	-
Thallium (mg/kg)	83-111	20	92.7	-	-	98.8	90.0	-	2.99	-
Vanadium (mg/kg)	82-114	20	94.5	-	-	110	77.9	-	9.14	-
Zinc (mg/kg)	82-113	20	56.0	-	81.8	-	61.1	-	1.85	-

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MS = Matrix Spike
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NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

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Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID	NHFLA-MW15						
	Field sample ID	NHFLA-MSD2-AUG2020				NHFLA-MW15-A-AUG2020		NHFLA-MW15
	Lab Sample ID	SN7207-005P	SN7207-005P			SN7207-1	SN7207-1	SN7207-2
	Sample Type	MSD	MSD			Parent	Parent	Parent
	Sample Date	8/26/20	8/26/20			8/26/20	8/26/20	8/26/20
	Analysis Information	1X	2X	1X	2X	1X	2X	2X
Trace Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry (SW6010/SW3050)	**Recovery Limit** / **RPD Limit**	**MSD Percent Recovery**	**MSD Percent Recovery**	**RPD**	**RPD**			
Selenium (mg/kg)	78-111 / 20	90.8	-	7.74	-	-	1.40 J	0.760 J
Silver (mg/kg)	82-112 / 20	91.3	-	26.3	-	0.405 J	-	0.340 J
Sodium (mg/kg)	83-118 / 20	89.8	-	3.70	-	**206**	-	**182**
Thallium (mg/kg)	83-111 / 20	87.7	-	12.7	-	-	2.80 U	2.50 U
Vanadium (mg/kg)	82-114 / 20	88.6	-	14.5	-	-	**42.1**	**26.1**
Zinc (mg/kg)	82-113 / 20	54.8	-	10.8	-	**128 J**	-	**101 J**

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Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
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Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-MW15							
	Field sample ID		NHFLA-MS1-	NHFLA-MS2-	NHFLA-MSD1-AUG2020		NHFLA-MSD2-AUG2020		NHFLA-MW15	NHFLA-MW15
	Lab Sample ID		WG285988-7	WG285741-13	WG285988-8		WG285741-14		SN7207-1	SN7207-2
	Sample Type		MS	MS	MSD		MSD		Parent	Parent
	Sample Date		8/26/20	8/26/20	8/26/20		8/26/20		8/26/20	8/26/20
	Analysis Information		1X	1X	1X		1X		1X	1X
SN7207										
Volatile Organic Compounds by GC/MS (SW8260/SW5035)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	**MSD Percent Recovery**	**RPD**		
1,1,1-Trichloroethane (µg/kg)	73-130	20	84.8	95.0	84.4	2.60	95.3	7.59	4.40 U	4.30 UJ
1,1,2,2-Tetrachloroethane (µg/kg)	70-124	20	56.5	75.0	57.8	0.00	76.7	9.52	4.40 UJ	4.30 UJ
1,1,2-Trichloro-1,2,2-trifluoroethane (µg/kg)	66-136	20	95.7	105	93.3	4.65	93.0	4.88	4.40 U	4.30 UJ
1,1,2-Trichloroethane (µg/kg)	78-121	20	65.2	80.0	64.4	3.39	81.4	8.96	4.40 UJ	4.30 UJ
1,1-Dichloroethane (µg/kg)	76-125	20	95.7	103	93.3	4.65	102	7.06	4.40 U	4.30 UJ
1,1-Dichloroethene (µg/kg)	70-131	20	102	95.0	100	4.35	93.0	5.13	4.40 U	4.30 UJ
1,2,3-Trichlorobenzene (µg/kg)	66-130	20	19.3	40.0	22.2	11.6	39.5	6.06	4.40 UJ	4.30 UJ
1,2,4-Trichlorobenzene (µg/kg)	67-129	20	20.9	45.0	22.2	4.08	44.2	5.41	4.40 UJ	4.30 UJ
1,2-Dibromo-3-chloropropane (µg/kg)	61-132	20	43.5	65.0	44.4	0.00	67.4	10.9	4.40 UJ	4.30 UJ
1,2-Dibromoethane (EDB) (µg/kg)	78-122	20	56.5	75.0	57.8	0.00	76.7	9.52	4.40 UJ	4.30 UJ
1,2-Dichlorobenzene (µg/kg)	78-121	20	34.8	60.0	33.3	6.45	62.8	11.8	4.40 UJ	4.30 UJ
1,2-Dichloroethane (µg/kg)	73-128	20	80.4	85.0	75.6	8.45	86.0	8.45	4.40 U	4.30 UJ
1,2-Dichloropropane (µg/kg)	76-123	20	71.7	85.0	71.1	3.08	86.0	8.45	4.40 UJ	4.30 UJ
1,3-Dichlorobenzene (µg/kg)	77-121	20	37.0	62.5	31.1	19.4	67.4	14.8	4.40 UJ	4.30 UJ
1,4-Dichlorobenzene (µg/kg)	75-120	20	34.8	60.0	31.1	13.3	65.1	15.4	4.40 UJ	4.30 UJ
2-Butanone (MEK) (µg/kg)	51-148	20	54.3	80.0	55.6	0.00	83.7	11.8	22.0 U	22.0 UJ

Notes:
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Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-MW15							
	Field sample ID		NHFLA-MS1-	NHFLA-MS2-	NHFLA-MSD1-AUG2020		NHFLA-MSD2-AUG2020		NHFLA-MW15	NHFLA-MW15
	Lab Sample ID		WG285988-7	WG285741-13	WG285988-8		WG285741-14		SN7207-1	SN7207-2
	Sample Type		MS	MS	MSD		MSD		Parent	Parent
	Sample Date		8/26/20	8/26/20	8/26/20		8/26/20		8/26/20	8/26/20
	Analysis Information		1X	1X	1X		1X		1X	1X
Volatile Organic Compounds by GC/MS (SW8260/SW5035)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	**MSD Percent Recovery**	**RPD**		
2-Hexanone (µg/kg)	53-145	20	32.6	70.0	46.7	33.3	69.8	6.90	22.0 UJ	22.0 UJ
4-Methyl-2-pentanone (MIBK) (µg/kg)	65-135	20	58.7	75.0	62.2	3.64	74.4	6.45	22.0 UJ	22.0 UJ
Acetone (µg/kg)	36-164	20	78.3	112	77.8	2.82	100	2.30	22.0 U	5.40 J
Benzene (µg/kg)	77-121	20	73.9	85.0	71.1	6.06	86.0	8.45	4.40 UJ	4.30 UJ
Bromochloromethane (µg/kg)	78-125	20	73.9	87.5	73.3	2.99	88.4	8.22	4.40 UJ	4.30 UJ
Bromodichloromethane (µg/kg)	75-127	20	73.9	90.0	71.1	6.06	90.7	8.00	4.40 UJ	4.30 UJ
Bromoform (µg/kg)	67-132	20	41.3	70.0	44.4	5.13	74.4	13.3	4.40 UJ	4.30 UJ
Bromomethane (µg/kg)	53-143	20	87.0	95.0	93.3	4.88	95.3	7.59	8.80 U	8.70 UJ
Carbon disulfide (µg/kg)	63-132	20	86.7	72.5	84.2	5.13	72.1	6.67	0.750 J	4.30 UJ
Carbon tetrachloride (µg/kg)	70-135	20	78.3	87.5	75.6	5.71	90.7	10.8	4.40 U	4.30 UJ
Chlorobenzene (µg/kg)	79-120	20	52.2	72.5	46.7	13.3	76.7	12.9	4.40 UJ	4.30 UJ
Chloroethane (µg/kg)	59-139	20	104	90.0	100	6.45	88.4	5.41	8.80 U	8.70 UJ
Chloroform (µg/kg)	78-123	20	84.8	92.5	82.2	5.26	93.0	7.79	4.40 U	4.30 UJ
Chloromethane (µg/kg)	50-136	20	80.4	75.0	82.2	0.00	76.7	9.52	8.80 U	8.70 UJ
cis-1,2-Dichloroethene (µg/kg)	77-123	20	76.1	90.0	73.3	5.88	90.7	8.00	4.40 UJ	4.30 UJ
cis-1,3-Dichloropropene (µg/kg)	74-126	20	52.2	77.5	53.3	0.00	79.1	9.23	4.40 UJ	4.30 UJ
Cyclohexane (µg/kg)	67-131	20	78.3	80.0	75.6	5.71	81.4	8.96	4.40 U	4.30 UJ

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Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-MW15							
	Field sample ID		NHFLA-MS1-	NHFLA-MS2-	NHFLA-MSD1-AUG2020		NHFLA-MSD2-AUG2020		NHFLA-MW15	NHFLA-MW15
	Lab Sample ID		WG285988-7	WG285741-13	WG285988-8		WG285741-14		SN7207-1	SN7207-2
	Sample Type		MS	MS	MSD		MSD		Parent	Parent
	Sample Date		8/26/20	8/26/20	8/26/20		8/26/20		8/26/20	8/26/20
	Analysis Information		1X	1X	1X		1X		1X	1X
Volatile Organic Compounds by GC/MS (SW8260/SW5035)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	**MSD Percent Recovery**	**RPD**		
Dibromochloromethane (µg/kg)	74-126	20	56.5	80.0	57.8	0.00	86.0	14.5	4.40 UJ	4.30 UJ
Dichlorodifluoromethane (µg/kg)	29-149	20	67.4	47.5	68.9	0.00	46.5	5.13	8.80 U	8.70 UJ
Ethylbenzene (µg/kg)	76-122	20	54.3	72.5	46.7	17.4	79.1	15.9	4.40 UJ	4.30 UJ
Isopropylbenzene (Cumene) (µg/kg)	68-134	20	50.0	75.0	42.2	19.0	83.7	18.2	4.40 UJ	4.30 UJ
m,p-Xylene (µg/kg)	77-124	20	56.5	75.0	47.8	18.9	82.6	16.8	8.80 UJ	8.70 UJ
Methyl acetate (µg/kg)	53-144	20	14.3	90.0	33.3	77.8	79.1	5.71	4.40 UJ	4.30 UJ
Methyl tert-butyl ether (MTBE) (µg/kg)	73-125	20	93.5	95.0	91.1	4.76	90.7	2.60	4.40 U	4.30 UJ
Methylcyclohexane (µg/kg)	66-133	20	54.3	92.5	53.3	4.08	86.0	0.00	4.40 UJ	4.30 UJ
Methylene chloride (µg/kg)	70-128	20	76.6	63.7	71.7	6.74	61.4	2.74	10.0 J	12.0 J
o-Xylene (µg/kg)	77-123	20	52.2	72.5	46.7	13.3	79.1	15.9	4.40 UJ	4.30 UJ
Styrene (µg/kg)	76-124	20	45.7	70.0	40.0	15.4	76.7	16.4	4.40 UJ	4.30 UJ
Tetrachloroethene (PCE) (µg/kg)	73-128	20	56.5	77.5	48.9	16.7	81.4	12.1	4.40 UJ	4.30 UJ
Toluene (µg/kg)	77-121	20	63.0	77.5	57.8	10.9	81.4	12.1	4.40 UJ	4.30 UJ
trans-1,2-Dichloroethene (µg/kg)	74-125	20	95.7	92.5	91.1	7.06	93.0	7.79	4.40 U	4.30 UJ
trans-1,3-Dichloropropene (µg/kg)	71-130	20	52.2	77.5	53.3	0.00	79.1	9.23	4.40 UJ	4.30 UJ
Trichloroethene (TCE) (µg/kg)	77-123	20	69.6	80.0	64.4	9.84	81.4	8.96	4.40 UJ	4.30 UJ
Trichlorofluoromethane (µg/kg)	62-140	20	113	92.5	111	3.92	88.4	2.67	8.80 U	8.70 UJ

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-MW15							
	Field sample ID		NHFLA-MS1-	NHFLA-MS2-	NHFLA-MSD1-AUG2020		NHFLA-MSD2-AUG2020		NHFLA-MW15	NHFLA-MW15
	Lab Sample ID		WG285988-7	WG285741-13	WG285988-8		WG285741-14		SN7207-1	SN7207-2
	Sample Type		MS	MS	MSD		MSD		Parent	Parent
	Sample Date		8/26/20	8/26/20	8/26/20		8/26/20		8/26/20	8/26/20
	Analysis Information		1X	1X	1X		1X		1X	1X
Volatile Organic Compounds by GC/MS (SW8260/SW5035)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	**MSD Percent Recovery**	**RPD**		
Vinyl chloride (µg/kg)	56-135	20	93.5	82.5	93.3	2.35	81.4	5.88	8.80 U	8.70 UJ

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7207

Location	Analysis
NHFLA-MW15	BNASIM

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	2-Methylnaphthalene	32.0	51.0	22.0	45.8	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	2-Methylnaphthalene	2.40	ND	22.0	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Acenaphthene	230	62.0	22.0	115	50	NA	168
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Acenaphthene	640	250	860	87.6	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Acenaphthylene	17.0	8.70	22.0	64.6	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Acenaphthylene	4.30	2.30	22.0	60.6	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Anthracene	510	160	22.0	104	50	Out	NA
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Anthracene	2200	330	860	148	50	NA	1870
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Benzo(a)anthracene	850	340	180	85.7	50	NA	510
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Benzo(a)anthracene	3700	1000	860	115	50	NA	2700
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Benzo(a)pyrene	670	310	180	73.5	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Benzo(a)pyrene	3000	920	860	106	50	NA	2080
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Benzo(b)fluoranthene	840	380	180	75.4	50	NA	460
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Benzo(b)fluoranthene	3600	980	860	114	50	NA	2620
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Benzo(g,h,i)perylene	390	160	22.0	83.6	50	Out	NA

FD = Field Duplicate
RL = Reporting Limit
RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7207

Location	Analysis
NHFLA-MW15	BNASIM

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Benzo(g,h,i)perylene	1700	430	860	119	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Benzo(k)fluoranthene	360	170	22.0	71.7	50	Out	NA
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Benzo(k)fluoranthene	1600	320	860	133	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Chrysene	820	340	180	82.8	50	NA	480
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Chrysene	3700	1100	860	108	50	NA	2600
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Dibenz(a,h)anthracene	320	130	22.0	84.4	50	Out	NA
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Dibenz(a,h)anthracene	100	54.0	22.0	59.7	50	NA	46.0
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Fluoranthene	2200	960	180	78.5	50	Out	NA
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Fluoranthene	9600	1700	860	140	50	Out	NA
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Fluorene	230	58.0	22.0	119	50	NA	172
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Fluorene	700	200	860	111	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Indeno(1,2,3-c,d)pyrene	350	140	22.0	85.7	50	Out	NA
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Indeno(1,2,3-c,d)pyrene	1500	430	860	111	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Naphthalene	24.0	180	22.0	153	50	NA	156
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Naphthalene	27.0	6.30	22.0	124	50	NA	OK

FD = Field Duplicate
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RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7207

Location	Analysis
NHFLA-MW15	BNASIM

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Phenanthrene	1900	640	180	99.2	50	Out	NA
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Phenanthrene	7400	1800	860	122	50	Out	NA
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Pyrene	2000	960	180	70.3	50	Out	NA
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Pyrene	8300	2500	860	107	50	Out	NA

Location	Analysis
NHFLA-MW15	LYDKHN

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Total Organic Carbon	29000	25000	1000	14.8	50	OK	NA
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Total Organic Carbon	14000	21000	1300	40.0	50	OK	NA

Location	Analysis
NHFLA-MW15	SW6010

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Aluminum	14100	14300	28.0	1.41	50	OK	NA
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Aluminum	12700	14100	51.0	10.4	50	OK	NA
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Antimony	1.37	0.270	0.910	134	50	NA	OK

FD = Field Duplicate
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RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7207

Location	Analysis
NHFLA-MW15	SW6010

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Antimony	0.270	0.140	1.40	63.4	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Arsenic	10.0	9.98	0.910	0.200	50	OK	NA
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Arsenic	9.87	9.72	1.40	1.53	50	OK	NA
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Barium	85.3	75.3	0.460	12.5	50	OK	NA
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Barium	68.0	71.3	0.850	4.74	50	OK	NA
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Beryllium	0.991	0.904	0.460	9.18	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Beryllium	0.757	0.813	0.850	7.13	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Cadmium	0.379	0.380	0.570	0.264	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Cadmium	0.215	0.578	0.850	91.6	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Calcium	36400	31100	17.0	15.7	50	OK	NA
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Calcium	37000	31300	9.20	16.7	50	OK	NA
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Chromium	18.0	18.1	1.70	0.554	50	OK	NA
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Chromium	86.6	20.5	1.80	123	50	Out	NA
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Cobalt	11.1	11.1	1.10	0.00	50	OK	NA
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Cobalt	10.2	10.3	1.70	0.976	50	OK	NA

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7207

Location	Analysis
NHFLA-MW15	SW6010

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Copper	27.0	26.6	2.80	1.49	50	OK	NA
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Copper	30.0	29.5	4.20	1.68	50	OK	NA
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Iron	27800	23000	11.0	18.9	50	OK	NA
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Iron	24000	22400	17.0	6.90	50	OK	NA
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Lead	28.3	31.2	0.570	9.75	50	OK	NA
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Lead	21.2	22.6	0.850	6.39	50	OK	NA
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Magnesium	6600	6200	11.0	6.25	50	OK	NA
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Magnesium	8510	6500	17.0	26.8	50	OK	NA
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Manganese	653	572	0.850	13.2	50	OK	NA
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Manganese	2630	828	0.920	104	50	Out	NA
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Nickel	30.9	31.3	1.10	1.29	50	OK	NA
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Nickel	35.4	36.4	1.70	2.79	50	OK	NA
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Potassium	1810	2160	170	17.6	50	OK	NA
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Potassium	1910	1880	92.0	1.58	50	OK	NA
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Selenium	0.760	1.60	1.70	71.2	50	NA	OK

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RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Field Duplicate Report By SDG

C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7207

Location	Analysis
NHFLA-MW15	SW6010

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Selenium	1.40	1.20	1.80	15.4	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Silver	0.405	0.350	1.10	14.6	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Silver	0.340	ND	1.70	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Sodium	182	180	170	1.10	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Sodium	206	ND	92.0	NA	50	NA	206
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Thallium	ND	0.520	2.50	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Thallium	ND	ND	2.80	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Vanadium	26.1	28.7	1.70	9.49	50	OK	NA
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Vanadium	42.1	31.0	1.80	30.4	50	OK	NA
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Zinc	128	132	1.80	3.08	50	OK	NA
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Zinc	101	110	3.40	8.53	50	OK	NA

Location	Analysis
NHFLA-MW15	SW7196

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Chromium, Hexavalent	ND	ND	0.540	NA	50	NA	OK

FD = Field Duplicate
RL = Reporting Limit
RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Field Duplicate Report By SDG

C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7207

Location	Analysis
NHFLA-MW15	SW7196

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Chromium, Hexavalent	ND	ND	0.570	NA	50	NA	OK

Location	Analysis
NHFLA-MW15	SW7471

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Mercury	0.0500	0.0490	0.0330	2.02	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Mercury	0.0390	0.0400	0.0350	2.53	50	NA	OK

Location	Analysis
NHFLA-MW15	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	1,1,1-Trichloroethane	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	1,1,1-Trichloroethane	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	1,1,2,2-Tetrachloroethane	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	1,1,2,2-Tetrachloroethane	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ND	4.30	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7207

Location	Analysis
NHFLA-MW15	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	1,1,2-Trichloroethane	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	1,1,2-Trichloroethane	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	1,1-Dichloroethane	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	1,1-Dichloroethane	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	1,1-Dichloroethene	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	1,1-Dichloroethene	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	1,2,3-Trichlorobenzene	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	1,2,3-Trichlorobenzene	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	1,2,4-Trichlorobenzene	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	1,2,4-Trichlorobenzene	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	1,2-Dibromo-3-chloropropane	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	1,2-Dibromo-3-chloropropane	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	1,2-Dibromoethane (EDB)	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	1,2-Dibromoethane (EDB)	ND	ND	4.40	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7207

Location	Analysis
NHFLA-MW15	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	1,2-Dichlorobenzene	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	1,2-Dichlorobenzene	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	1,2-Dichloroethane	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	1,2-Dichloroethane	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	1,2-Dichloropropane	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	1,2-Dichloropropane	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	1,3-Dichlorobenzene	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	1,3-Dichlorobenzene	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	1,4-Dichlorobenzene	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	1,4-Dichlorobenzene	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	2-Butanone (MEK)	ND	ND	22.0	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	2-Butanone (MEK)	ND	ND	22.0	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	2-Hexanone	ND	ND	22.0	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	2-Hexanone	ND	ND	22.0	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	4-Methyl-2-pentanone (MIBK)	ND	ND	22.0	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7207

Location	Analysis
NHFLA-MW15	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	4-Methyl-2-pentanone (MIBK)	ND	ND	22.0	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Acetone	ND	ND	22.0	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Acetone	5.40	ND	22.0	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Benzene	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Benzene	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Bromochloromethane	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Bromochloromethane	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Bromodichloromethane	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Bromodichloromethane	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Bromoform	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Bromoform	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Bromomethane	ND	ND	8.70	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Bromomethane	ND	ND	8.80	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Carbon disulfide	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Carbon disulfide	0.750	ND	4.40	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7207

Location	Analysis
NHFLA-MW15	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Carbon tetrachloride	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Carbon tetrachloride	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Chlorobenzene	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Chlorobenzene	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Chloroethane	ND	ND	8.70	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Chloroethane	ND	ND	8.80	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Chloroform	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Chloroform	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Chloromethane	ND	ND	8.70	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Chloromethane	ND	ND	8.80	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	cis-1,2-Dichloroethene	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	cis-1,2-Dichloroethene	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	cis-1,3-Dichloropropene	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	cis-1,3-Dichloropropene	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Cyclohexane	ND	ND	4.30	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7207

Location	Analysis
NHFLA-MW15	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Cyclohexane	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Dibromochloromethane	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Dibromochloromethane	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Dichlorodifluoromethane	ND	ND	8.70	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Dichlorodifluoromethane	ND	ND	8.80	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Ethylbenzene	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Ethylbenzene	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Isopropylbenzene (Cumene)	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Isopropylbenzene (Cumene)	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	m,p-Xylene	ND	ND	8.70	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	m,p-Xylene	ND	ND	8.80	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Methyl acetate	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Methyl acetate	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Methyl tert-butyl ether (MTBE)	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Methyl tert-butyl ether (MTBE)	ND	ND	4.40	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7207

Location	Analysis
NHFLA-MW15	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Methylcyclohexane	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Methylcyclohexane	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Methylene chloride	10.0	ND	22.0	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Methylene chloride	12.0	ND	22.0	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	o-Xylene	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	o-Xylene	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Styrene	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Styrene	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Tetrachloroethene (PCE)	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Tetrachloroethene (PCE)	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Toluene	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Toluene	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	trans-1,2-Dichloroethene	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	trans-1,2-Dichloroethene	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	trans-1,3-Dichloropropene	ND	ND	4.30	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7207

Location	Analysis
NHFLA-MW15	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	trans-1,3-Dichloropropene	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Trichloroethene (TCE)	ND	ND	4.30	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Trichloroethene (TCE)	ND	ND	4.40	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Trichlorofluoromethane	ND	ND	8.70	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Trichlorofluoromethane	ND	ND	8.80	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Vinyl chloride	ND	ND	8.70	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Vinyl chloride	ND	ND	8.80	NA	50	NA	OK

Location	Analysis
NHFLA-MW15	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	1,2,4,5-Tetrachlorobenzene	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	1,2,4,5-Tetrachlorobenzene	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	1,4-Dioxane (p-Dioxane)	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	1,4-Dioxane (p-Dioxane)	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	2,2'-Oxybis(1-chloropropane)	ND	ND	360	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7207

Location	Analysis
NHFLA-MW15	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	2,2'-Oxybis(1-chloropropane)	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	2,4,5-Trichlorophenol	ND	ND	880	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	2,4,5-Trichlorophenol	ND	ND	900	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	2,4,6-Trichlorophenol	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	2,4,6-Trichlorophenol	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	2,4-Dichlorophenol	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	2,4-Dichlorophenol	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	2,4-Dimethylphenol	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	2,4-Dimethylphenol	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	2,4-Dinitrophenol	ND	ND	880	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	2,4-Dinitrophenol	ND	ND	900	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	2,4-Dinitrotoluene	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	2,4-Dinitrotoluene	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	2,6-Dinitrotoluene	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	2,6-Dinitrotoluene	ND	ND	360	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7207

Location	Analysis
NHFLA-MW15	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	2-Chloronaphthalene	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	2-Chloronaphthalene	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	2-Chlorophenol	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	2-Chlorophenol	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	2-Methylphenol (o-Cresol)	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	2-Methylphenol (o-Cresol)	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	2-Nitroaniline	ND	ND	880	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	2-Nitroaniline	ND	ND	900	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	2-Nitrophenol	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	2-Nitrophenol	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	3,3'-Dichlorobenzidine	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	3,3'-Dichlorobenzidine	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	3-Nitroaniline	ND	ND	880	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	3-Nitroaniline	ND	ND	900	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	4,6-Dinitro-2-methylphenol	ND	ND	880	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7207

Location	Analysis
NHFLA-MW15	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	4,6-Dinitro-2-methylphenol	ND	ND	900	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	4-Bromophenyl phenyl ether	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	4-Bromophenyl phenyl ether	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	4-Chloro-3-methylphenol	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	4-Chloro-3-methylphenol	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	4-Chloroaniline	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	4-Chloroaniline	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	4-Chlorophenyl phenyl ether	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	4-Chlorophenyl phenyl ether	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	4-Nitroaniline	ND	ND	880	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	4-Nitroaniline	ND	ND	900	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	4-Nitrophenol	ND	ND	880	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	4-Nitrophenol	ND	ND	900	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Acetophenone	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Acetophenone	ND	ND	360	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7207

Location	Analysis
NHFLA-MW15	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Atrazine	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Atrazine	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Benzaldehyde	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Benzaldehyde	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Benzyl butyl phthalate	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Benzyl butyl phthalate	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Biphenyl (Diphenyl)	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Biphenyl (Diphenyl)	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Bis(2-chloroethoxy) methane	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Bis(2-chloroethoxy) methane	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Bis(2-ethylhexyl) phthalate	1200	1800	360	40.0	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Bis(2-ethylhexyl) phthalate	1500	1300	360	14.3	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Caprolactam	ND	ND	360	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7207

Location	Analysis
NHFLA-MW15	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Caprolactam	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Carbazole	710	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Carbazole	230	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Cresols, m- & p-	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Cresols, m- & p-	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Di-n-butyl phthalate	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Di-n-butyl phthalate	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	di-n-Octyl phthalate	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	di-n-Octyl phthalate	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Dibenzofuran	340	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Dibenzofuran	110	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Diethyl phthalate	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Diethyl phthalate	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Dimethyl phthalate	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Dimethyl phthalate	ND	ND	360	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7207

Location	Analysis
NHFLA-MW15	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Hexachlorobenzene	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Hexachlorobenzene	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Hexachlorobutadiene	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Hexachlorobutadiene	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Hexachlorocyclopentadiene	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Hexachlorocyclopentadiene	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Hexachloroethane	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Hexachloroethane	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Isophorone	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Isophorone	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	N-Nitrosodi-n-propylamine	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	N-Nitrosodi-n-propylamine	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	N-Nitrosodiphenylamine	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	N-Nitrosodiphenylamine	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Nitrobenzene	ND	ND	360	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7207

Location	Analysis
NHFLA-MW15	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Nitrobenzene	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Pentachlorophenol	ND	ND	880	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Pentachlorophenol	ND	ND	900	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	Phenol	ND	ND	360	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	SN7207-2 / SN7207-5	Phenol	ND	ND	360	NA	50	NA	OK

Location	Analysis
NHFLA-MW15	SW9045

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	SN7207-1 / SN7207-4	pH	8.20	8.20	0.100	0.00	50	OK	NA

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RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Table of All Qualified Results

Test Method: BNASIM	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB7-AUG2020	EB	Benzo(a)pyrene	0.190	0.0860 JB	0.0940 U		ug/l	L
NHFLA-EB7-AUG2020	EB	Benzo(b)fluoranthene	0.190	0.140 JB	0.190 U		ug/l	L
NHFLA-EB7-AUG2020	EB	Benzo(g,h,i)perylene	0.190	0.0870 JB	0.0940 U		ug/l	L
NHFLA-EB7-AUG2020	EB	Benzo(k)fluoranthene	0.190	0.0520 JB	0.0940 U		ug/l	L
NHFLA-EB7-AUG2020	EB	Dibenz(a,h)anthracene	0.190	0.0990 JB	0.190 U		ug/l	L
NHFLA-EB7-AUG2020	EB	Indeno(1,2,3-c,d)pyrene	0.190	0.0920 JB	0.0940 U		ug/l	L

Test Method: BNASIM	Extraction Method: SW3550							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP1-AUG2020	FD	Fluoranthene	110	1700 MM	1700 J		ug/kg	D3/D
NHFLA-DUP1-AUG2020	FD	Phenanthrene	110	1800 MM	1800 J		ug/kg	D3/D
NHFLA-DUP1-AUG2020	FD	Pyrene	110	2500 MM	2500 J		ug/kg	D3/D
NHFLA-DUP1-AUG2020	FD	Anthracene	22.0	330 MM	330 J		ug/kg	D3/D
NHFLA-DUP1-AUG2020	FD	2-Methylnaphthalene	22.0	51.0 M	51.0 J		ug/kg	M/D
NHFLA-DUP1-AUG2020	FD	Acenaphthene	22.0	250 MM	250 J		ug/kg	D/M
NHFLA-DUP1-AUG2020	FD	Dibenz(a,h)anthracene	22.0	130 MM	130 J		ug/kg	D3/D/M
NHFLA-DUP1-AUG2020	FD	Naphthalene	22.0	180 MM	180 J		ug/kg	D3/M/D
NHFLA-DUP1-AUG2020	FD	Benzo(a)anthracene	110	1000 MM	1000 J		ug/kg	D3/D
NHFLA-DUP1-AUG2020	FD	Benzo(a)pyrene	110	920 MM	920 J		ug/kg	D3/D
NHFLA-DUP1-AUG2020	FD	Benzo(b)fluoranthene	110	980 MM	980 J		ug/kg	D3/D
NHFLA-DUP1-AUG2020	FD	Benzo(g,h,i)perylene	22.0	430 MM	430 J		ug/kg	D/D3
NHFLA-DUP1-AUG2020	FD	Benzo(k)fluoranthene	22.0	320 MM	320 J		ug/kg	D/D3
NHFLA-DUP1-AUG2020	FD	Chrysene	110	1100 MM	1100 J		ug/kg	D3/D
NHFLA-DUP1-AUG2020	FD	Indeno(1,2,3-c,d)pyrene	22.0	430 MM	430 J		ug/kg	D/D3
NHFLA-DUP1-AUG2020	FD	Fluorene	22.0	200 MM	200 J		ug/kg	D/M
NHFLA-DUP2-AUG2020	FD	Fluoranthene	58.0	960	960 J		ug/kg	D3/D
NHFLA-DUP2-AUG2020	FD	Phenanthrene	58.0	640	640 J		ug/kg	D3/D
NHFLA-DUP2-AUG2020	FD	Pyrene	58.0	960	960 J		ug/kg	D3/D
NHFLA-DUP2-AUG2020	FD	Anthracene	19.0	160	160 J		ug/kg	D3/D
NHFLA-DUP2-AUG2020	FD	Fluorene	19.0	58.0	58.0 J		ug/kg	D3/D
NHFLA-DUP2-AUG2020	FD	Dibenz(a,h)anthracene	19.0	54.0	54.0 J		ug/kg	D3/M
NHFLA-DUP2-AUG2020	FD	Naphthalene	19.0	6.30 J	6.30 J		ug/kg	TR/D/M
NHFLA-DUP2-AUG2020	FD	Acenaphthene	19.0	62.0	62.0 J		ug/kg	D3/D
NHFLA-DUP2-AUG2020	FD	Benzo(a)anthracene	19.0	340	340 J		ug/kg	D3/D
NHFLA-DUP2-AUG2020	FD	Benzo(a)pyrene	19.0	310	310 J		ug/kg	D/D3
NHFLA-DUP2-AUG2020	FD	Benzo(b)fluoranthene	19.0	380 L	380 J	-	ug/kg	D3/C/D
NHFLA-DUP2-AUG2020	FD	Benzo(g,h,i)perylene	19.0	160	160 J		ug/kg	D3/D
NHFLA-DUP2-AUG2020	FD	Benzo(k)fluoranthene	19.0	170	170 J		ug/kg	D3/D
NHFLA-DUP2-AUG2020	FD	Chrysene	19.0	340	340 J		ug/kg	D3/D
NHFLA-DUP2-AUG2020	FD	Indeno(1,2,3-c,d)pyrene	19.0	140	140 J		ug/kg	D3/D
NHFLA-MW15-A-AUG2020	N	Fluoranthene	860	9600	9600 J		ug/kg	D3/D

Table of All Qualified Results

Test Method: BNASIM Extraction Method: SW3550

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW15-A-AUG2020	N	Phenanthrene	860	7400	7400 J		ug/kg	D3/D
NHFLA-MW15-A-AUG2020	N	Pyrene	860	8300	8300 J		ug/kg	D3/D
NHFLA-MW15-A-AUG2020	N	Anthracene	860	2200	2200 J		ug/kg	D3/D
NHFLA-MW15-A-AUG2020	N	2-Methylnaphthalene	22.0	32.0	32.0 J		ug/kg	M/D
NHFLA-MW15-A-AUG2020	N	Acenaphthene	860	640 J	640 J		ug/kg	M/D/TR
NHFLA-MW15-A-AUG2020	N	Dibenz(a,h)anthracene	22.0	320	320 J		ug/kg	D3/D/M
NHFLA-MW15-A-AUG2020	N	Naphthalene	22.0	24.0	24.0 J		ug/kg	D3/M/D
NHFLA-MW15-A-AUG2020	N	Benzo(a)anthracene	860	3700	3700 J		ug/kg	D3/D
NHFLA-MW15-A-AUG2020	N	Benzo(a)pyrene	860	3000	3000 J		ug/kg	D3/D
NHFLA-MW15-A-AUG2020	N	Benzo(b)fluoranthene	860	3600 L	3600 J	-	ug/kg	D3/C/D
NHFLA-MW15-A-AUG2020	N	Benzo(g,h,i)perylene	860	1700	1700 J		ug/kg	D/D3
NHFLA-MW15-A-AUG2020	N	Benzo(k)fluoranthene	860	1600	1600 J		ug/kg	D/D3
NHFLA-MW15-A-AUG2020	N	Chrysene	860	3700	3700 J		ug/kg	D3/D
NHFLA-MW15-A-AUG2020	N	Indeno(1,2,3-c,d)pyrene	860	1500	1500 J		ug/kg	D/D3
NHFLA-MW15-A-AUG2020	N	Fluorene	860	700 J	700 J		ug/kg	D/TR/M
NHFLA-MW15-B-AUG2020	N	Fluoranthene	180	2200	2200 J		ug/kg	D3/D
NHFLA-MW15-B-AUG2020	N	Phenanthrene	180	1900	1900 J		ug/kg	D3/D
NHFLA-MW15-B-AUG2020	N	Pyrene	180	2000	2000 J		ug/kg	D3/D
NHFLA-MW15-B-AUG2020	N	Anthracene	22.0	510	510 J		ug/kg	D3/D
NHFLA-MW15-B-AUG2020	N	Fluorene	22.0	230	230 J		ug/kg	D3/D
NHFLA-MW15-B-AUG2020	N	2-Methylnaphthalene	22.0	2.40 J	2.40 J		ug/kg	TR/M
NHFLA-MW15-B-AUG2020	N	Dibenz(a,h)anthracene	22.0	100	100 J		ug/kg	D3/M
NHFLA-MW15-B-AUG2020	N	Naphthalene	22.0	27.0	27.0		ug/kg	D/M
NHFLA-MW15-B-AUG2020	N	Acenaphthene	22.0	230	230 J		ug/kg	D3/D
NHFLA-MW15-B-AUG2020	N	Benzo(a)anthracene	180	850	850 J		ug/kg	D3/D
NHFLA-MW15-B-AUG2020	N	Benzo(a)pyrene	180	670	670 J		ug/kg	D/D3
NHFLA-MW15-B-AUG2020	N	Benzo(b)fluoranthene	180	840 L	840 J	-	ug/kg	D3/C/D
NHFLA-MW15-B-AUG2020	N	Benzo(g,h,i)perylene	22.0	390	390 J		ug/kg	D3/D
NHFLA-MW15-B-AUG2020	N	Benzo(k)fluoranthene	22.0	360	360 J		ug/kg	D3/D
NHFLA-MW15-B-AUG2020	N	Chrysene	180	820	820 J		ug/kg	D3/D
NHFLA-MW15-B-AUG2020	N	Indeno(1,2,3-c,d)pyrene	22.0	350	350 J		ug/kg	D3/D
NHFLA-MW15-C-AUG2020	N	Benzo(b)fluoranthene	26.0	13.0 UL	13.0 UJ		ug/kg	C
NHFLA-MW6-A-AUG2020	N	Benzo(b)fluoranthene	120	1200 L	1200 J	-	ug/kg	C
NHFLA-MW6-B-AUG2020	N	Benzo(b)fluoranthene	22.0	23.0 L	23.0 J	-	ug/kg	C

Test Method: SW6010 Extraction Method: SW3050

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP1-AUG2020	FD	Antimony	1.30	0.270 JN	0.270 J	-	mg/kg	M/TR
NHFLA-DUP1-AUG2020	FD	Iron	16.0	23000 N*	23000 J		mg/kg	D
NHFLA-DUP1-AUG2020	FD	Nickel	1.60	31.3 N	31.3 J	-	mg/kg	M
NHFLA-DUP1-AUG2020	FD	Potassium	160	1880 N*	1880 J	+	mg/kg	M/D
NHFLA-DUP1-AUG2020	FD	Zinc	3.20	132 N	132 J	-	mg/kg	M
NHFLA-DUP1-AUG2020	FD	Copper	4.00	26.6 N	26.6 J	-	mg/kg	M

Table of All Qualified Results

Test Method: SW6010	Extraction Method: SW3050							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP1-AUG2020	FD	Lead	0.800	31.2 N	31.2 J	-	mg/kg	M
NHFLA-DUP1-AUG2020	FD	Chromium	1.60	20.5	20.5 J		mg/kg	D3
NHFLA-DUP1-AUG2020	FD	Manganese	0.800	828 N*	828 J		mg/kg	D3/D
NHFLA-DUP2-AUG2020	FD	Antimony	1.50	0.140 JN	0.140 J	-	mg/kg	M/TR
NHFLA-DUP2-AUG2020	FD	Iron	9.30	22400 N*	22400 J		mg/kg	D
NHFLA-DUP2-AUG2020	FD	Manganese	0.460	572 N*	572 J		mg/kg	D
NHFLA-DUP2-AUG2020	FD	Potassium	93.0	2160 N	2160 J	-	mg/kg	M
NHFLA-DUP2-AUG2020	FD	Calcium	9.30	31100 N*	31100 J		mg/kg	D
NHFLA-DUP2-AUG2020	FD	Chromium	0.930	18.1 N	18.1 J	+	mg/kg	M
NHFLA-DUP2-AUG2020	FD	Zinc	1.80	110 N	110 J	-	mg/kg	M
NHFLA-DUP2-AUG2020	FD	Arsenic	0.740	9.72 N	9.72 J	+	mg/kg	M
NHFLA-DUP2-AUG2020	FD	Copper	2.30	29.5 N*	29.5 J	+	mg/kg	M/D
NHFLA-DUP2-AUG2020	FD	Lead	0.460	22.6 N	22.6 J		mg/kg	M
NHFLA-MW15-A-AUG2020	N	Antimony	0.910	1.37	1.37 J	-	mg/kg	M
NHFLA-MW15-A-AUG2020	N	Iron	11.0	27800	27800 J		mg/kg	D
NHFLA-MW15-A-AUG2020	N	Nickel	1.10	30.9	30.9 J	-	mg/kg	M
NHFLA-MW15-A-AUG2020	N	Potassium	92.0	1910	1910 J	+	mg/kg	M/D
NHFLA-MW15-A-AUG2020	N	Zinc	1.80	128	128 J	-	mg/kg	M
NHFLA-MW15-A-AUG2020	N	Copper	2.80	27.0	27.0 J	-	mg/kg	M
NHFLA-MW15-A-AUG2020	N	Lead	0.570	28.3	28.3 J	-	mg/kg	M
NHFLA-MW15-A-AUG2020	N	Chromium	1.80	86.6	86.6 J		mg/kg	D3
NHFLA-MW15-A-AUG2020	N	Manganese	0.920	2630	2630 J		mg/kg	D3/D
NHFLA-MW15-B-AUG2020	N	Antimony	1.40	0.270 J	0.270 J	-	mg/kg	M/TR
NHFLA-MW15-B-AUG2020	N	Iron	17.0	24000	24000 J		mg/kg	D
NHFLA-MW15-B-AUG2020	N	Manganese	0.850	653	653 J		mg/kg	D
NHFLA-MW15-B-AUG2020	N	Potassium	170	1810	1810 J	-	mg/kg	M
NHFLA-MW15-B-AUG2020	N	Calcium	17.0	36400	36400 J		mg/kg	D
NHFLA-MW15-B-AUG2020	N	Chromium	1.70	18.0	18.0 J	+	mg/kg	M
NHFLA-MW15-B-AUG2020	N	Zinc	3.40	101	101 J	-	mg/kg	M
NHFLA-MW15-B-AUG2020	N	Arsenic	1.40	9.87	9.87 J	+	mg/kg	M
NHFLA-MW15-B-AUG2020	N	Copper	4.20	30.0	30.0 J	+	mg/kg	M/D
NHFLA-MW15-B-AUG2020	N	Lead	0.850	21.2	21.2 J		mg/kg	M
NHFLA-MW15-B-AUG2020	N	Silver	1.70	0.340 J	0.340 J	+	mg/kg	M/TR

Test Method: SW6020	Extraction Method: SW3010							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB7-AUG2020	EB	Aluminum	100	70.5 J	100 U		ug/l	L
NHFLA-EB7-AUG2020	EB	Copper	3.00	0.870 J	2.00 U		ug/l	L
NHFLA-EB7-AUG2020	EB	Magnesium	100	25.0 J	80.0 U		ug/l	L
NHFLA-EB7-AUG2020	EB	Sodium	1000	170 J	400 U		ug/l	L

Table of All Qualified Results

Test Method: SW7196	Extraction Method: NONE							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB7-AUG2020	EB	Chromium, Hexavalent	0.0250	0.00540 J	0.0125 U		mg/l	L

Test Method: SW7196	Extraction Method: SW3060							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP1-AUG2020	FD	Chromium, Hexavalent	0.570	0.340 U	0.340 UJ		mg/kg	M
NHFLA-MW15-A-AUG2020	N	Chromium, Hexavalent	0.570	0.340 U	0.340 UJ		mg/kg	M

Test Method: SW7470	Extraction Method: METHOD							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB7-AUG2020	EB	Mercury	0.200	0.0210 JN*	0.0210 J	-	ug/l	M/D/TR

Test Method: SW8260	Extraction Method: SW5035							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP1-AUG2020	FD	Methylene chloride	24.0	11.0 J	12.0 UJ		ug/kg	L
NHFLA-DUP1-AUG2020	FD	1,1,2,2-Tetrachloroethane	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	1,2,3-Trichlorobenzene	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	1,2,4-Trichlorobenzene	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	1,2-Dibromo-3-chloropropane	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	1,2-Dibromoethane (EDB)	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	2-Hexanone	24.0	12.0 UMM	12.0 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	4-Methyl-2-pentanone (MIBK)	24.0	12.0 UMM	12.0 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	Bromoform	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	cis-1,3-Dichloropropene	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	Dibromochloromethane	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	Methyl acetate	4.80	2.90 UMM	2.90 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	trans-1,3-Dichloropropene	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	1,1,2-Trichloroethane	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	1,2-Dichlorobenzene	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	1,2-Dichloropropane	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	1,3-Dichlorobenzene	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	1,4-Dichlorobenzene	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	Benzene	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	Bromochloromethane	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	Bromodichloromethane	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	Chlorobenzene	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	cis-1,2-Dichloroethene	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	Ethylbenzene	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	Isopropylbenzene (Cumene)	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	m,p-Xylene	9.70	4.80 UMM	4.80 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	Methylcyclohexane	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	o-Xylene	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	Styrene	4.80	2.40 UMM	2.40 UJ		ug/kg	M

Table of All Qualified Results

Test Method: SW8260 Extraction Method: SW5035								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP1-AUG2020	FD	Tetrachloroethene (PCE)	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	Toluene	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP1-AUG2020	FD	Trichloroethene (TCE)	4.80	2.40 UMM	2.40 UJ		ug/kg	M
NHFLA-DUP2-AUG2020	FD	Methylene chloride	20.0	9.70 JMM	10.0 UJ		ug/kg	L/M
NHFLA-DUP2-AUG2020	FD	1,2,3-Trichlorobenzene	4.00	2.00 UMM	2.00 UJ		ug/kg	M
NHFLA-DUP2-AUG2020	FD	1,2,4-Trichlorobenzene	4.00	2.00 UMM	2.00 UJ		ug/kg	M
NHFLA-DUP2-AUG2020	FD	1,2-Dibromoethane (EDB)	4.00	2.00 UMM	2.00 UJ		ug/kg	M
NHFLA-DUP2-AUG2020	FD	1,2-Dichlorobenzene	4.00	2.00 UMM	2.00 UJ		ug/kg	M
NHFLA-DUP2-AUG2020	FD	1,3-Dichlorobenzene	4.00	2.00 UMM	2.00 UJ		ug/kg	M
NHFLA-DUP2-AUG2020	FD	1,4-Dichlorobenzene	4.00	2.00 UMM	2.00 UJ		ug/kg	M
NHFLA-DUP2-AUG2020	FD	Chlorobenzene	4.00	2.00 UMM	2.00 UJ		ug/kg	M
NHFLA-DUP2-AUG2020	FD	Ethylbenzene	4.00	2.00 UM	2.00 UJ		ug/kg	M
NHFLA-DUP2-AUG2020	FD	m,p-Xylene	8.00	4.00 UM	4.00 UJ		ug/kg	M
NHFLA-DUP2-AUG2020	FD	o-Xylene	4.00	2.00 UM	2.00 UJ		ug/kg	M
NHFLA-DUP2-AUG2020	FD	Styrene	4.00	2.00 UM	2.00 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	1,1,2,2-Tetrachloroethane	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	1,2,3-Trichlorobenzene	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	1,2,4-Trichlorobenzene	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	1,2-Dibromo-3-chloropropane	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	1,2-Dibromoethane (EDB)	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	2-Hexanone	22.0	11.0 U	11.0 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	4-Methyl-2-pentanone (MIBK)	22.0	11.0 U	11.0 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	Bromoform	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	cis-1,3-Dichloropropene	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	Dibromochloromethane	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	Methyl acetate	4.40	2.60 U	2.60 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	trans-1,3-Dichloropropene	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	1,1,2-Trichloroethane	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	1,2-Dichlorobenzene	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	1,2-Dichloropropane	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	1,3-Dichlorobenzene	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	1,4-Dichlorobenzene	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	Benzene	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	Bromochloromethane	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	Bromodichloromethane	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	Chlorobenzene	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	cis-1,2-Dichloroethene	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	Ethylbenzene	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	Isopropylbenzene (Cumene)	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	m,p-Xylene	8.80	4.40 U	4.40 UJ		ug/kg	M

Table of All Qualified Results

Test Method: SW8260 Extraction Method: SW5035

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW15-A-AUG2020	N	Methylcyclohexane	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	o-Xylene	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	Styrene	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	Tetrachloroethene (PCE)	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	Toluene	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-A-AUG2020	N	Trichloroethene (TCE)	4.40	2.20 U	2.20 UJ		ug/kg	M
NHFLA-MW15-B-AUG2020	N	1,1,1-Trichloroethane	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	1,1,2,2-Tetrachloroethane	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	1,1,2-Trichloroethane	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	1,1-Dichloroethane	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	1,1-Dichloroethene	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	1,2,3-Trichlorobenzene	4.30	2.20 U	2.20 UJ		ug/kg	M/I
NHFLA-MW15-B-AUG2020	N	1,2,4-Trichlorobenzene	4.30	2.20 U	2.20 UJ		ug/kg	M/I
NHFLA-MW15-B-AUG2020	N	1,2-Dibromo-3-chloropropane	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	1,2-Dibromoethane (EDB)	4.30	2.20 U	2.20 UJ		ug/kg	M/I
NHFLA-MW15-B-AUG2020	N	1,2-Dichlorobenzene	4.30	2.20 U	2.20 UJ		ug/kg	M/I
NHFLA-MW15-B-AUG2020	N	1,2-Dichloroethane	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	1,2-Dichloropropane	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	1,3-Dichlorobenzene	4.30	2.20 U	2.20 UJ		ug/kg	M/I
NHFLA-MW15-B-AUG2020	N	1,4-Dichlorobenzene	4.30	2.20 U	2.20 UJ		ug/kg	M/I
NHFLA-MW15-B-AUG2020	N	2-Butanone (MEK)	22.0	11.0 U	11.0 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	2-Hexanone	22.0	11.0 U	11.0 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	4-Methyl-2-pentanone (MIBK)	22.0	11.0 U	11.0 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Acetone	22.0	5.40 J	5.40 J		ug/kg	I/TR
NHFLA-MW15-B-AUG2020	N	Benzene	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Bromochloromethane	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Bromodichloromethane	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Bromoform	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Bromomethane	8.70	4.30 U	4.30 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Carbon disulfide	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Carbon tetrachloride	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Chlorobenzene	4.30	2.20 U	2.20 UJ		ug/kg	M/I
NHFLA-MW15-B-AUG2020	N	Chloroethane	8.70	4.30 U	4.30 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Chloroform	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Chloromethane	8.70	4.30 U	4.30 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	cis-1,2-Dichloroethene	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	cis-1,3-Dichloropropene	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Cyclohexane	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Dibromochloromethane	4.30	2.20 U	2.20 UJ		ug/kg	I

Table of All Qualified Results

Test Method: SW8260 Extraction Method: SW5035								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW15-B-AUG2020	N	Dichlorodifluoromethane	8.70	4.30 U	4.30 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Ethylbenzene	4.30	2.20 U	2.20 UJ		ug/kg	M/I
NHFLA-MW15-B-AUG2020	N	Isopropylbenzene (Cumene)	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	m,p-Xylene	8.70	4.30 U	4.30 UJ		ug/kg	M/I
NHFLA-MW15-B-AUG2020	N	Methyl acetate	4.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Methyl tert-butyl ether (MTBE)	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Methylcyclohexane	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Methylene chloride	22.0	12.0 J	12.0 J		ug/kg	M/I/TR
NHFLA-MW15-B-AUG2020	N	o-Xylene	4.30	2.20 U	2.20 UJ		ug/kg	M/I
NHFLA-MW15-B-AUG2020	N	Styrene	4.30	2.20 U	2.20 UJ		ug/kg	M/I
NHFLA-MW15-B-AUG2020	N	Tetrachloroethene (PCE)	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Toluene	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	trans-1,2-Dichloroethene	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	trans-1,3-Dichloropropene	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Trichloroethene (TCE)	4.30	2.20 U	2.20 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Trichlorofluoromethane	8.70	4.30 U	4.30 UJ		ug/kg	I
NHFLA-MW15-B-AUG2020	N	Vinyl chloride	8.70	4.30 U	4.30 UJ		ug/kg	I
NHFLA-MW15-C-AUG2020	N	Methylene chloride	29.0	11.0 J	11.0 J	+	ug/kg	I/TR
NHFLA-MW6-B-AUG2020	N	Methylene chloride	25.0	12.0 J	12.0 J	+	ug/kg	I/TR

Test Method: SW8270 Extraction Method: SW3510								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB7-AUG2020	EB	Caprolactam	9.40	7.10 UL	7.10 X		ug/l	C

Test Method: SW8270 Extraction Method: SW3550								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP1-AUG2020	FD	Atrazine	370	280 UL	280 UJ		ug/kg	C
NHFLA-DUP1-AUG2020	FD	Bis(2-ethylhexyl)phthalate	370	1800 BLMM	1800 J	+	ug/kg	L/C/M
NHFLA-DUP1-AUG2020	FD	Caprolactam	370	280 UL	280 UJ		ug/kg	C
NHFLA-DUP1-AUG2020	FD	4-Chloroaniline	370	280 UM	280 UJ		ug/kg	M
NHFLA-DUP2-AUG2020	FD	Atrazine	320	240 UL	240 UJ		ug/kg	C
NHFLA-DUP2-AUG2020	FD	Bis(2-ethylhexyl)phthalate	320	1300 BLMM	1300 J	+	ug/kg	L/C/M
NHFLA-DUP2-AUG2020	FD	Caprolactam	320	240 UL	240 UJ		ug/kg	C
NHFLA-MW15-A-AUG2020	N	Atrazine	360	270 UL	270 UJ		ug/kg	C
NHFLA-MW15-A-AUG2020	N	Bis(2-ethylhexyl)phthalate	360	1200 BL	1200 J	+	ug/kg	L/C/M
NHFLA-MW15-A-AUG2020	N	Caprolactam	360	270 UL	270 UJ		ug/kg	C
NHFLA-MW15-A-AUG2020	N	4-Chloroaniline	360	270 U	270 UJ		ug/kg	M
NHFLA-MW15-B-AUG2020	N	Atrazine	360	270 UL	270 UJ		ug/kg	C
NHFLA-MW15-B-AUG2020	N	Bis(2-ethylhexyl)phthalate	360	1500 BL	1500 J	+	ug/kg	L/C/M
NHFLA-MW15-B-AUG2020	N	Caprolactam	360	270 UL	270 UJ		ug/kg	C
NHFLA-MW15-C-AUG2020	N	Atrazine	420	320 UL	320 UJ		ug/kg	C
NHFLA-MW15-C-AUG2020	N	Bis(2-ethylhexyl)phthalate	420	980 BL	980 J	+	ug/kg	L/C

Table of All Qualified Results

Test Method: SW8270 Extraction Method: SW3550								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW15-C-AUG2020	N	Caprolactam	420	320 UL	320 UJ		ug/kg	C
NHFLA-MW6-A-AUG2020	N	Atrazine	390	290 UL	290 UJ		ug/kg	C
NHFLA-MW6-A-AUG2020	N	Bis(2-ethylhexyl)phthalate	390	2100 BL	2100 J	+	ug/kg	L/C
NHFLA-MW6-A-AUG2020	N	Caprolactam	390	290 UL	290 UJ		ug/kg	C
NHFLA-MW6-B-AUG2020	N	1,2,4,5-Tetrachlorobenzene	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	1,4-Dioxane (p-Dioxane)	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	2,2'-Oxybis(1-chloropropane)	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	2,4,5-Trichlorophenol	920	690 U	690 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	2,4,6-Trichlorophenol	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	2,4-Dichlorophenol	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	2,4-Dimethylphenol	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	2,4-Dinitrophenol	920	690 U	690 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	2,4-Dinitrotoluene	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	2,6-Dinitrotoluene	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	2-Chloronaphthalene	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	2-Chlorophenol	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	2-Methylphenol (o-Cresol)	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	2-Nitroaniline	920	690 U	690 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	2-Nitrophenol	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	3,3'-Dichlorobenzidine	370	280 UL	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	3-Nitroaniline	920	690 U	690 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	4,6-Dinitro-2-methylphenol	920	690 U	690 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	4-Bromophenyl phenyl ether	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	4-Chloro-3-methylphenol	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	4-Chloroaniline	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	4-Chlorophenyl phenyl ether	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	4-Nitroaniline	920	690 U	690 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	4-Nitrophenol	920	690 U	690 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Acetophenone	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Benzaldehyde	370	280 UL	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Benzyl butyl phthalate	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Biphenyl (Diphenyl)	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Bis(2-chloroethoxy)methane	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Caprolactam	370	280 UL	280 UJ		ug/kg	C/I
NHFLA-MW6-B-AUG2020	N	Carbazole	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Cresols, m- & p-	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Dibenzofuran	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Diethyl phthalate	370	280 U	280 UJ		ug/kg	I

Table of All Qualified Results

Test Method: SW8270 Extraction Method: SW3550

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW6-B-AUG2020	N	Dimethyl phthalate	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Di-n-butyl phthalate	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	di-n-Octyl phthalate	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Hexachlorobenzene	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Hexachlorobutadiene	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Hexachlorocyclopentadiene	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Hexachloroethane	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Isophorone	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Nitrobenzene	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	N-Nitrosodi-n-propylamine	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	N-Nitrosodiphenylamine	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Pentachlorophenol	920	690 U	690 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Phenol	370	280 U	280 UJ		ug/kg	I
NHFLA-MW6-B-AUG2020	N	Atrazine	370	280 UL	280 UJ		ug/kg	C/I
NHFLA-MW6-B-AUG2020	N	Bis(2-ethylhexyl)phthalate	370	1400 BL	1400 J		ug/kg	L/C/I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP1-AUG2020	FD	2-Methylnaphthalene	22.0	51.0 M	51.0 J	51.0 J	M/D
NHFLA-DUP1-AUG2020	FD	Acenaphthene	22.0	250 MM	250 J	250 J	D/M
NHFLA-DUP1-AUG2020	FD	Benzo(g,h,i)perylene	22.0	430 MM	430 J	430 J	D/D3
NHFLA-DUP1-AUG2020	FD	Benzo(k)fluoranthene	22.0	320 MM	320 J	320 J	D/D3
NHFLA-DUP1-AUG2020	FD	Dibenz(a,h)anthracene	22.0	130 MM	130 J	130 J	D3/D/M
NHFLA-DUP1-AUG2020	FD	Fluorene	22.0	200 MM	200 J	200 J	D/M
NHFLA-DUP1-AUG2020	FD	Indeno(1,2,3-c,d)pyrene	22.0	430 MM	430 J	430 J	D/D3
NHFLA-DUP2-AUG2020	FD	Benzo(a)pyrene	19.0	310	310 J	310 J	D/D3
NHFLA-DUP2-AUG2020	FD	Dibenz(a,h)anthracene	19.0	54.0	54.0 J	54.0 J	D3/M
NHFLA-DUP2-AUG2020	FD	Naphthalene	19.0	6.30 J	6.30 J	6.30 J	TR/D/M
NHFLA-MW15-A-AUG2020	N	2-Methylnaphthalene	22.0	32.0	32.0 J	32.0 J	M/D
NHFLA-MW15-A-AUG2020	N	Acenaphthene	860	640 J	640 J	640 J	M/D/TR
NHFLA-MW15-A-AUG2020	N	Benzo(g,h,i)perylene	860	1700	1700 J	1700 J	D/D3
NHFLA-MW15-A-AUG2020	N	Benzo(k)fluoranthene	860	1600	1600 J	1600 J	D/D3
NHFLA-MW15-A-AUG2020	N	Dibenz(a,h)anthracene	22.0	320	320 J	320 J	D3/D/M
NHFLA-MW15-A-AUG2020	N	Fluorene	860	700 J	700 J	700 J	D/TR/M
NHFLA-MW15-A-AUG2020	N	Indeno(1,2,3-c,d)pyrene	860	1500	1500 J	1500 J	D/D3
NHFLA-MW15-B-AUG2020	N	2-Methylnaphthalene	22.0	2.40 J	2.40 J	2.40 J	TR/M
NHFLA-MW15-B-AUG2020	N	Benzo(a)pyrene	180	670	670 J	670 J	D/D3
NHFLA-MW15-B-AUG2020	N	Dibenz(a,h)anthracene	22.0	100	100 J	100 J	D3/M
NHFLA-MW15-B-AUG2020	N	Naphthalene	22.0	27.0	27.0	27.0	D/M
NHFLA-MW6-B-AUG2020	N	Benzo(a)anthracene	22.0	15.0 J	22.0 U	15.0 J	TR

Modified Qualifiers for test method LYDKHN

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP1-AUG2020	FD	Total Organic Carbon	950	25000	25000 J	25000	
NHFLA-DUP2-AUG2020	FD	Total Organic Carbon	1100	21000	21000 J	21000	
NHFLA-MW15-A-AUG2020	N	Total Organic Carbon	1000	29000	29000 J	29000	
NHFLA-MW15-B-AUG2020	N	Total Organic Carbon	1300	14000	14000 J	14000	
NHFLA-MW15-C-AUG2020	N	Total Organic Carbon	960	16000	16000 J	16000	
NHFLA-MW6-A-AUG2020	N	Total Organic Carbon	1600	39000	39000 J	39000	
NHFLA-MW6-B-AUG2020	N	Total Organic Carbon	1400	21000	21000 J	21000	

Modified Qualifiers for test method SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP1-AUG2020	FD	Sodium	160	143 J	160 U	143 J	TR
NHFLA-DUP1-AUG2020	FD	Vanadium	1.60	31.0	31.0 J	31.0	
NHFLA-MW15-A-AUG2020	N	Vanadium	1.80	42.1	42.1 J	42.1	

Modified Qualifiers for test method SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP1-AUG2020	FD	Chromium, Hexavalent	0.570	0.340 U	0.340 X	0.340 UJ	M

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP2-AUG2020	FD	Chromium, Hexavalent	0.520	0.310 U	0.310 X	0.310 U	
NHFLA-MW15-A-AUG2020	N	Chromium, Hexavalent	0.570	0.340 U	0.340 X	0.340 UJ	M
NHFLA-MW15-B-AUG2020	N	Chromium, Hexavalent	0.540	0.330 U	0.330 X	0.330 U	
NHFLA-MW15-C-AUG2020	N	Chromium, Hexavalent	0.650	0.470 J	0.470 J	0.470 J	TR
NHFLA-MW6-A-AUG2020	N	Chromium, Hexavalent	1.20	0.740 U	0.740 X	0.740 U	
NHFLA-MW6-B-AUG2020	N	Chromium, Hexavalent	0.590	0.360 U	0.360 X	0.360 U	

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP1-AUG2020	FD	1,1,1-Trichloroethane	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-DUP1-AUG2020	FD	1,1,2,2-Tetrachloroethane	4.80	2.40 UMM	2.40 UJ	2.40 UJ	M
NHFLA-DUP1-AUG2020	FD	1,1,2-Trichloro-1,2,2-trifluoroethane	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-DUP1-AUG2020	FD	1,1,2-Trichloroethane	4.80	2.40 UMM	2.40 UJ	2.40 UJ	M
NHFLA-DUP1-AUG2020	FD	1,1-Dichloroethane	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-DUP1-AUG2020	FD	1,1-Dichloroethene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-DUP1-AUG2020	FD	1,2,3-Trichlorobenzene	4.80	2.40 UMM	2.40 UJ	2.40 UJ	M
NHFLA-DUP1-AUG2020	FD	1,2,4-Trichlorobenzene	4.80	2.40 UMM	2.40 UJ	2.40 UJ	M
NHFLA-DUP1-AUG2020	FD	1,2-Dibromo-3-chloropropane	4.80	2.40 UMM	2.40 UJ	2.40 UJ	M
NHFLA-DUP1-AUG2020	FD	1,2-Dibromoethane (EDB)	4.80	2.40 UMM	2.40 UJ	2.40 UJ	M
NHFLA-DUP1-AUG2020	FD	1,2-Dichlorobenzene	4.80	2.40 UMM	2.40 UJ	2.40 UJ	M
NHFLA-DUP1-AUG2020	FD	1,2-Dichloroethane	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-DUP1-AUG2020	FD	1,2-Dichloropropane	4.80	2.40 UMM	2.40 UJ	2.40 UJ	M
NHFLA-DUP1-AUG2020	FD	1,3-Dichlorobenzene	4.80	2.40 UMM	2.40 UJ	2.40 UJ	M
NHFLA-DUP1-AUG2020	FD	1,4-Dichlorobenzene	4.80	2.40 UMM	2.40 UJ	2.40 UJ	M
NHFLA-DUP1-AUG2020	FD	2-Butanone (MEK)	24.0	12.0 U	12.0 UJ	12.0 U	
NHFLA-DUP1-AUG2020	FD	2-Hexanone	24.0	12.0 UMM	12.0 UJ	12.0 UJ	M
NHFLA-DUP1-AUG2020	FD	4-Methyl-2-pentanone (MIBK)	24.0	12.0 UMM	12.0 UJ	12.0 UJ	M
NHFLA-DUP1-AUG2020	FD	Acetone	24.0	12.0 U	12.0 UJ	12.0 U	
NHFLA-DUP1-AUG2020	FD	Benzene	4.80	2.40 UMM	2.40 UJ	2.40 UJ	M
NHFLA-DUP1-AUG2020	FD	Bromochloromethane	4.80	2.40 UMM	2.40 UJ	2.40 UJ	M
NHFLA-DUP1-AUG2020	FD	Bromodichloromethane	4.80	2.40 UMM	2.40 UJ	2.40 UJ	M
NHFLA-DUP1-AUG2020	FD	Bromoform	4.80	2.40 UMM	2.40 UJ	2.40 UJ	M
NHFLA-DUP1-AUG2020	FD	Bromomethane	9.70	4.80 U	4.80 UJ	4.80 U	
NHFLA-DUP1-AUG2020	FD	Carbon disulfide	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-DUP1-AUG2020	FD	Carbon tetrachloride	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-DUP1-AUG2020	FD	Chlorobenzene	4.80	2.40 UMM	2.40 UJ	2.40 UJ	M
NHFLA-DUP1-AUG2020	FD	Chloroethane	9.70	4.80 U	4.80 UJ	4.80 U	
NHFLA-DUP1-AUG2020	FD	Chloroform	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-DUP1-AUG2020	FD	Chloromethane	9.70	4.80 U	4.80 UJ	4.80 U	
NHFLA-DUP1-AUG2020	FD	cis-1,2-Dichloroethene	4.80	2.40 UMM	2.40 UJ	2.40 UJ	M

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP1-AUG2020	FD	cis-1,3-Dichloropropene	4.80	2.40 UMM	2.40 UJ	2.40 UJ	M
NHFLA-DUP1-AUG2020	FD	Cyclohexane	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-DUP1-AUG2020	FD	Dibromochloromethane	4.80	2.40 UMM	2.40 UJ	2.40 UJ	M
NHFLA-DUP1-AUG2020	FD	Dichlorodifluoromethane	9.70	4.80 U	4.80 UJ	4.80 U	
NHFLA-DUP1-AUG2020	FD	Ethylbenzene	4.80	2.40 UMM	2.40 UJ	2.40 UJ	M
NHFLA-DUP1-AUG2020	FD	Isopropylbenzene (Cumene)	4.80	2.40 UMM	2.40 UJ	2.40 UJ	M
NHFLA-DUP1-AUG2020	FD	m,p-Xylene	9.70	4.80 UMM	4.80 UJ	4.80 UJ	M
NHFLA-DUP1-AUG2020	FD	Methyl acetate	4.80	2.90 UMM	2.90 UJ	2.90 UJ	M
NHFLA-DUP1-AUG2020	FD	Methyl tert-butyl ether (MTBE)	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-DUP1-AUG2020	FD	Methylcyclohexane	4.80	2.40 UMM	2.40 UJ	2.40 UJ	M
NHFLA-DUP1-AUG2020	FD	Methylene chloride	24.0	11.0 J	12.0 UJ	12.0 UJ	L
NHFLA-DUP1-AUG2020	FD	o-Xylene	4.80	2.40 UMM	2.40 UJ	2.40 UJ	M
NHFLA-DUP1-AUG2020	FD	Styrene	4.80	2.40 UMM	2.40 UJ	2.40 UJ	M
NHFLA-DUP1-AUG2020	FD	Tetrachloroethene (PCE)	4.80	2.40 UMM	2.40 UJ	2.40 UJ	M
NHFLA-DUP1-AUG2020	FD	Toluene	4.80	2.40 UMM	2.40 UJ	2.40 UJ	M
NHFLA-DUP1-AUG2020	FD	trans-1,2-Dichloroethene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-DUP1-AUG2020	FD	trans-1,3-Dichloropropene	4.80	2.40 UMM	2.40 UJ	2.40 UJ	M
NHFLA-DUP1-AUG2020	FD	Trichloroethene (TCE)	4.80	2.40 UMM	2.40 UJ	2.40 UJ	M
NHFLA-DUP1-AUG2020	FD	Trichlorofluoromethane	9.70	4.80 U	4.80 UJ	4.80 U	
NHFLA-DUP1-AUG2020	FD	Vinyl chloride	9.70	4.80 U	4.80 UJ	4.80 U	
NHFLA-DUP2-AUG2020	FD	1,1,1-Trichloroethane	4.00	2.00 U	2.00 UJ	2.00 U	
NHFLA-DUP2-AUG2020	FD	1,1,2,2-Tetrachloroethane	4.00	2.00 U	2.00 UJ	2.00 U	
NHFLA-DUP2-AUG2020	FD	1,1,2-Trichloro-1,2,2-trifluoroethane	4.00	2.00 U	2.00 UJ	2.00 U	
NHFLA-DUP2-AUG2020	FD	1,1,2-Trichloroethane	4.00	2.00 U	2.00 UJ	2.00 U	
NHFLA-DUP2-AUG2020	FD	1,1-Dichloroethane	4.00	2.00 U	2.00 UJ	2.00 U	
NHFLA-DUP2-AUG2020	FD	1,1-Dichloroethene	4.00	2.00 U	2.00 UJ	2.00 U	
NHFLA-DUP2-AUG2020	FD	1,2,3-Trichlorobenzene	4.00	2.00 UMM	2.00 UJ	2.00 UJ	M
NHFLA-DUP2-AUG2020	FD	1,2,4-Trichlorobenzene	4.00	2.00 UMM	2.00 UJ	2.00 UJ	M
NHFLA-DUP2-AUG2020	FD	1,2-Dibromo-3-chloropropane	4.00	2.00 U	2.00 UJ	2.00 U	
NHFLA-DUP2-AUG2020	FD	1,2-Dibromoethane (EDB)	4.00	2.00 UMM	2.00 UJ	2.00 UJ	M
NHFLA-DUP2-AUG2020	FD	1,2-Dichlorobenzene	4.00	2.00 UMM	2.00 UJ	2.00 UJ	M
NHFLA-DUP2-AUG2020	FD	1,2-Dichloroethane	4.00	2.00 U	2.00 UJ	2.00 U	
NHFLA-DUP2-AUG2020	FD	1,2-Dichloropropane	4.00	2.00 U	2.00 UJ	2.00 U	
NHFLA-DUP2-AUG2020	FD	1,3-Dichlorobenzene	4.00	2.00 UMM	2.00 UJ	2.00 UJ	M
NHFLA-DUP2-AUG2020	FD	1,4-Dichlorobenzene	4.00	2.00 UMM	2.00 UJ	2.00 UJ	M
NHFLA-DUP2-AUG2020	FD	2-Butanone (MEK)	20.0	10.0 U	10.0 UJ	10.0 U	
NHFLA-DUP2-AUG2020	FD	2-Hexanone	20.0	10.0 U	10.0 UJ	10.0 U	
NHFLA-DUP2-AUG2020	FD	4-Methyl-2-pentanone (MIBK)	20.0	10.0 U	10.0 UJ	10.0 U	
NHFLA-DUP2-AUG2020	FD	Acetone	20.0	10.0 U	10.0 UJ	10.0 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP2-AUG2020	FD	Benzene	4.00	2.00 U	2.00 UJ	2.00 U	
NHFLA-DUP2-AUG2020	FD	Bromochloromethane	4.00	2.00 U	2.00 UJ	2.00 U	
NHFLA-DUP2-AUG2020	FD	Bromodichloromethane	4.00	2.00 U	2.00 UJ	2.00 U	
NHFLA-DUP2-AUG2020	FD	Bromoform	4.00	2.00 U	2.00 UJ	2.00 U	
NHFLA-DUP2-AUG2020	FD	Bromomethane	8.00	4.00 U	4.00 UJ	4.00 U	
NHFLA-DUP2-AUG2020	FD	Carbon disulfide	4.00	2.00 U	2.00 UJ	2.00 U	
NHFLA-DUP2-AUG2020	FD	Carbon tetrachloride	4.00	2.00 U	2.00 UJ	2.00 U	
NHFLA-DUP2-AUG2020	FD	Chlorobenzene	4.00	2.00 UMM	2.00 UJ	2.00 UJ	M
NHFLA-DUP2-AUG2020	FD	Chloroethane	8.00	4.00 U	4.00 UJ	4.00 U	
NHFLA-DUP2-AUG2020	FD	Chloroform	4.00	2.00 U	2.00 UJ	2.00 U	
NHFLA-DUP2-AUG2020	FD	Chloromethane	8.00	4.00 U	4.00 UJ	4.00 U	
NHFLA-DUP2-AUG2020	FD	cis-1,2-Dichloroethene	4.00	2.00 U	2.00 UJ	2.00 U	
NHFLA-DUP2-AUG2020	FD	cis-1,3-Dichloropropene	4.00	2.00 U	2.00 UJ	2.00 U	
NHFLA-DUP2-AUG2020	FD	Cyclohexane	4.00	2.00 U	2.00 UJ	2.00 U	
NHFLA-DUP2-AUG2020	FD	Dibromochloromethane	4.00	2.00 U	2.00 UJ	2.00 U	
NHFLA-DUP2-AUG2020	FD	Dichlorodifluoromethane	8.00	4.00 U	4.00 UJ	4.00 U	
NHFLA-DUP2-AUG2020	FD	Ethylbenzene	4.00	2.00 UM	2.00 UJ	2.00 UJ	M
NHFLA-DUP2-AUG2020	FD	Isopropylbenzene (Cumene)	4.00	2.00 U	2.00 UJ	2.00 U	
NHFLA-DUP2-AUG2020	FD	m,p-Xylene	8.00	4.00 UM	4.00 UJ	4.00 UJ	M
NHFLA-DUP2-AUG2020	FD	Methyl acetate	4.00	2.40 U	2.40 UJ	2.40 U	
NHFLA-DUP2-AUG2020	FD	Methyl tert-butyl ether (MTBE)	4.00	2.00 U	2.00 UJ	2.00 U	
NHFLA-DUP2-AUG2020	FD	Methylcyclohexane	4.00	2.00 U	2.00 UJ	2.00 U	
NHFLA-DUP2-AUG2020	FD	Methylene chloride	20.0	9.70 JMM	10.0 UJ	10.0 UJ	L/M
NHFLA-DUP2-AUG2020	FD	o-Xylene	4.00	2.00 UM	2.00 UJ	2.00 UJ	M
NHFLA-DUP2-AUG2020	FD	Styrene	4.00	2.00 UM	2.00 UJ	2.00 UJ	M
NHFLA-DUP2-AUG2020	FD	Tetrachloroethene (PCE)	4.00	2.00 U	2.00 UJ	2.00 U	
NHFLA-DUP2-AUG2020	FD	Toluene	4.00	2.00 U	2.00 UJ	2.00 U	
NHFLA-DUP2-AUG2020	FD	trans-1,2-Dichloroethene	4.00	2.00 U	2.00 UJ	2.00 U	
NHFLA-DUP2-AUG2020	FD	trans-1,3-Dichloropropene	4.00	2.00 U	2.00 UJ	2.00 U	
NHFLA-DUP2-AUG2020	FD	Trichloroethene (TCE)	4.00	2.00 U	2.00 UJ	2.00 U	
NHFLA-DUP2-AUG2020	FD	Trichlorofluoromethane	8.00	4.00 U	4.00 UJ	4.00 U	
NHFLA-DUP2-AUG2020	FD	Vinyl chloride	8.00	4.00 U	4.00 UJ	4.00 U	

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Automated Data Review Detail Report for SN7207
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Rejected Results

Test Method: SW8270	Extraction Method: SW3510	Leach Method: NONE							
FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-EB7-AUG2020	SN7207-8	W	EB	Caprolactam	9.40	7.10 UL	7.10 X	ug/l	C

Automated Data Review Detail Report for SN7207
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
BNASIM/SW3550/NONE	4	12
SW6010/SW3050/NONE	7	45
SW7196/SW3060/NONE	7	7
SW7471/METHOD/NONE	5	5
SW8260/SW5035/NONE	2	6
SW8270/SW3550/NONE	6	180

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
BNASIM/SW3550/NONE	NHFLA-DUP1-AUG2020	FD	5	Benzo(a)pyrene	920 J	18.0	54.0	110	36.666666	ug/kg
BNASIM/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	40	Benzo(a)anthracene	3700 J	82.0	430	860	366.666666	ug/kg
BNASIM/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	40	Benzo(a)pyrene	3000 J	140	430	860	36.666666	ug/kg
BNASIM/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	40	Benzo(b)fluoranthene	3600 J	100	430	860	366.666666	ug/kg
BNASIM/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	40	Benzo(g,h,i)perylene	1700 J	86.0	430	860	366.666666	ug/kg
BNASIM/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	40	Benzo(k)fluoranthene	1600 J	130	430	860	366.666666	ug/kg
BNASIM/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	40	Chrysene	3700 J	73.0	430	860	366.666666	ug/kg
BNASIM/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	40	Fluoranthene	9600 J	78.0	430	860	366.666666	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
BNASIM/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	40	Indeno(1,2,3-c,d)pyrene	1500 J	82.0	430	860	366.666666	ug/kg
BNASIM/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	40	Pyrene	8300 J	91.0	430	860	366.666666	ug/kg
BNASIM/SW3550/NONE	NHFLA-MW15-B-AUG2020	N	8	Benzo(a)pyrene	670 J	29.0	88.0	180	36.666666	ug/kg
BNASIM/SW3550/NONE	NHFLA-MW6-A-AUG2020	N	5	Benzo(a)pyrene	880	19.0	59.0	120	36.666666	ug/kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-DUP1-AUG2020	FD	2	Antimony	0.270 J	0.110	0.800	1.30	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP1-AUG2020	FD	2	Arsenic	9.98	0.110	0.800	1.30	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP1-AUG2020	FD	2	Cadmium	0.380 J	0.0130	0.480	0.800	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP1-AUG2020	FD	2	Cobalt	11.1	0.0470	0.640	1.60	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP1-AUG2020	FD	2	Selenium	1.20 J	0.270	1.10	1.60	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP1-AUG2020	FD	2	Silver	0.350 J	0.0430	0.640	1.60	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP1-AUG2020	FD	2	Thallium	0.800 U	0.140	0.800	2.40	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP2-AUG2020	FD	2	Antimony	0.140 J	0.130	0.930	1.50	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP2-AUG2020	FD	1	Arsenic	9.72 J	0.0630	0.460	0.740	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP2-AUG2020	FD	1	Cadmium	0.578	0.00730	0.280	0.460	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP2-AUG2020	FD	1	Cobalt	10.3	0.0270	0.370	0.930	0.766666	mg/Kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-DUP2-AUG2020	FD	1	Selenium	1.60	0.160	0.650	0.930	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP2-AUG2020	FD	1	Thallium	0.520 J	0.0800	0.460	1.40	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW15-A-AUG2020	N	1	Antimony	1.37 J	0.0800	0.570	0.910	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW15-A-AUG2020	N	1	Arsenic	10.0	0.0780	0.570	0.910	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW15-A-AUG2020	N	1	Cadmium	0.379 J	0.00900	0.340	0.570	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW15-A-AUG2020	N	1	Cobalt	11.1	0.0330	0.460	1.10	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW15-A-AUG2020	N	2	Selenium	1.40 J	0.310	1.30	1.80	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW15-A-AUG2020	N	2	Thallium	0.920 U	0.160	0.920	2.80	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW15-B-AUG2020	N	2	Antimony	0.270 J	0.120	0.850	1.40	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW15-B-AUG2020	N	2	Arsenic	9.87 J	0.120	0.850	1.40	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW15-B-AUG2020	N	2	Cadmium	0.215 J	0.0130	0.510	0.850	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW15-B-AUG2020	N	2	Cobalt	10.2	0.0490	0.680	1.70	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW15-B-AUG2020	N	2	Selenium	0.760 J	0.290	1.20	1.70	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW15-B-AUG2020	N	2	Silver	0.340 J	0.0460	0.680	1.70	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW15-B-AUG2020	N	2	Thallium	0.850 U	0.150	0.850	2.50	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW15-C-AUG2020	N	2	Antimony	0.480 J	0.130	0.960	1.50	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW15-C-AUG2020	N	2	Arsenic	11.3	0.130	0.960	1.50	0.226666	mg/Kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-MW15-C-AUG2020	N	2	Cadmium	0.580 U	0.0150	0.580	0.960	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW15-C-AUG2020	N	2	Cobalt	3.25	0.0560	0.770	1.90	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW15-C-AUG2020	N	2	Selenium	2.20	0.330	1.30	1.90	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW15-C-AUG2020	N	2	Silver	0.410 J	0.0520	0.770	1.90	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW15-C-AUG2020	N	2	Thallium	4.07	0.170	0.960	2.90	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW6-A-AUG2020	N	1	Antimony	0.230 J	0.0850	0.610	0.970	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW6-A-AUG2020	N	1	Arsenic	9.24	0.0830	0.610	0.970	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW6-A-AUG2020	N	1	Cadmium	0.578 J	0.00960	0.360	0.610	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW6-A-AUG2020	N	1	Cobalt	12.0	0.0350	0.490	1.20	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW6-A-AUG2020	N	1	Selenium	1.60	0.210	0.850	1.20	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW6-A-AUG2020	N	1	Thallium	0.610 U	0.100	0.610	1.80	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW6-B-AUG2020	N	1	Antimony	0.350 J	0.0780	0.560	0.890	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW6-B-AUG2020	N	1	Arsenic	14.0	0.0760	0.560	0.890	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW6-B-AUG2020	N	1	Cadmium	0.0964 J	0.00880	0.330	0.560	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW6-B-AUG2020	N	1	Cobalt	4.00	0.0320	0.440	1.10	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW6-B-AUG2020	N	1	Selenium	2.09	0.190	0.780	1.10	0.173333	mg/Kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-MW6-B-AUG2020	N	1	Thallium	2.12	0.0960	0.560	1.70	0.016666	mg/Kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7196/SW3060/NONE	NHFLA-DUP1-AUG2020	FD	1.2	Chromium, Hexavalent	0.340 UJ	0.170	0.340	0.570	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-DUP2-AUG2020	FD	1.2	Chromium, Hexavalent	0.310 U	0.160	0.310	0.520	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-MW15-A-AUG2020	N	1.2	Chromium, Hexavalent	0.340 UJ	0.170	0.340	0.570	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-MW15-B-AUG2020	N	1.2	Chromium, Hexavalent	0.330 U	0.160	0.330	0.540	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-MW15-C-AUG2020	N	1.2	Chromium, Hexavalent	0.470 J	0.190	0.390	0.650	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-MW6-A-AUG2020	N	2.5	Chromium, Hexavalent	0.740 U	0.370	0.740	1.20	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-MW6-B-AUG2020	N	1.2	Chromium, Hexavalent	0.360 U	0.180	0.360	0.590	0.4	mg/kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7471/METHOD/NONE	NHFLA-DUP1-AUG2020	FD	1	Mercury	0.0490	0.00550	0.0180	0.0360	0.033	mg/Kg
SW7471/METHOD/NONE	NHFLA-MW15-B-AUG2020	N	1	Mercury	0.0390	0.00540	0.0180	0.0350	0.033	mg/Kg
SW7471/METHOD/NONE	NHFLA-MW15-C-AUG2020	N	1	Mercury	0.130	0.00660	0.0220	0.0430	0.033	mg/Kg
SW7471/METHOD/NONE	NHFLA-MW6-A-AUG2020	N	1	Mercury	0.0634	0.00560	0.0180	0.0360	0.033	mg/Kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7471/METHOD/NONE	NHFLA-MW6-B-AUG2020	N	1	Mercury	0.0676	0.00570	0.0190	0.0370	0.033	mg/Kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8260/SW5035/NONE	NHFLA-MW15-C-AUG2020	N	1	1,2-Dibromo-3-chloropropane	2.90 U	1.70	2.90	5.80	5	ug/kg
SW8260/SW5035/NONE	NHFLA-MW15-C-AUG2020	N	1	Bromomethane	5.80 U	1.30	5.80	12.0	10	ug/kg
SW8260/SW5035/NONE	NHFLA-MW15-C-AUG2020	N	1	Carbon disulfide	2.90 U	0.910	2.90	5.80	5	ug/kg
SW8260/SW5035/NONE	NHFLA-MW15-C-AUG2020	N	1	Vinyl chloride	5.80 U	1.00	5.80	12.0	10	ug/kg
SW8260/SW5035/NONE	NHFLA-MW6-B-AUG2020	N	1	1,2-Dibromo-3-chloropropane	2.50 U	1.50	2.50	5.10	5	ug/kg
SW8260/SW5035/NONE	NHFLA-MW6-B-AUG2020	N	1	Carbon disulfide	2.50 U	0.790	2.50	5.10	5	ug/kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-DUP1-AUG2020	FD	1	1,2,4,5-Tetrachlorobenzene	280 U	150	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP1-AUG2020	FD	1	2,4-Dichlorophenol	280 U	170	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP1-AUG2020	FD	1	2,4-Dimethylphenol	280 U	180	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP1-AUG2020	FD	1	2,4-Dinitrophenol	690 U	420	690	920	820	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP1-AUG2020	FD	1	2,6-Dinitrotoluene	280 U	88.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP1-AUG2020	FD	1	2-Chlorophenol	280 U	180	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP1-AUG2020	FD	1	2-Methylphenol (o-Cresol)	280 U	220	280	370	330	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-DUP1-AUG2020	FD	1	2-Nitroaniline	690 U	84.0	690	920	820	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP1-AUG2020	FD	1	3,3'-Dichlorobenzidine	280 U	130	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP1-AUG2020	FD	1	4,6-Dinitro-2-methylphenol	690 U	380	690	920	820	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP1-AUG2020	FD	1	4-Chloroaniline	280 UJ	130	280	370	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP1-AUG2020	FD	1	Atrazine	280 UJ	100	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP1-AUG2020	FD	1	Benzyl butyl phthalate	280 U	100	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP1-AUG2020	FD	1	Biphenyl (Diphenyl)	280 U	81.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP1-AUG2020	FD	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	280 U	90.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP1-AUG2020	FD	1	bis(2-Ethylhexyl) phthalate	1800 J	110	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP1-AUG2020	FD	1	Carbazole	280 U	120	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP1-AUG2020	FD	1	Dibenzofuran	280 U	88.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP1-AUG2020	FD	1	Diethyl phthalate	280 U	89.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP1-AUG2020	FD	1	Dimethyl phthalate	280 U	87.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP1-AUG2020	FD	1	Di-n-butyl phthalate	280 U	110	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP1-AUG2020	FD	1	Di-n-octyl phthalate	280 U	240	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP1-AUG2020	FD	1	Hexachlorobenzene	280 U	92.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP1-AUG2020	FD	1	Hexachlorobutadiene	280 U	93.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP1-AUG2020	FD	1	Hexachlorocyclopentadiene	280 U	92.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP1-AUG2020	FD	1	Hexachloroethane	280 U	110	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP1-AUG2020	FD	1	n-Nitrosodi-n-propylamine	280 U	93.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP1-AUG2020	FD	1	n-Nitrosodiphenylamine	280 U	240	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP1-AUG2020	FD	1	Pentachlorophenol	690 U	260	690	920	820	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP1-AUG2020	FD	1	Phenol	280 U	170	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	1	1,2,4,5-Tetrachlorobenzene	270 U	140	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	1	2,4-Dichlorophenol	270 U	160	270	360	330	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	1	2,4-Dimethylphenol	270 U	180	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	1	2,4-Dinitrophenol	660 U	410	660	880	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	1	2,6-Dinitrotoluene	270 U	85.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	1	2-Chlorophenol	270 U	180	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	1	2-Methylphenol (o-Cresol)	270 U	220	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	1	2-Nitroaniline	660 U	81.0	660	880	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	1	3,3'-Dichlorobenzidine	270 U	120	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	1	4,6-Dinitro-2-methylphenol	660 U	360	660	880	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	1	4-Chloroaniline	270 UJ	130	270	360	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	1	Atrazine	270 UJ	98.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	1	Benzyl butyl phthalate	270 U	100	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	1	Biphenyl (Diphenyl)	270 U	79.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	270 U	87.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	1	bis(2-Ethylhexyl) phthalate	1200 J	100	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	1	Carbazole	710	120	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	1	Dibenzofuran	340 J	85.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	1	Diethyl phthalate	270 U	86.0	270	360	330	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	1	Dimethyl phthalate	270 U	84.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	1	Di-n-butyl phthalate	270 U	110	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	1	Di-n-octyl phthalate	270 U	230	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	1	Hexachlorobenzene	270 U	88.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	1	Hexachlorobutadiene	270 U	90.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	1	Hexachlorocyclopentadiene	270 U	88.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	1	Hexachloroethane	270 U	100	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	1	n-Nitrosodi-n-propylamine	270 U	90.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	1	n-Nitrosodiphenylamine	270 U	240	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	1	Pentachlorophenol	660 U	260	660	880	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-A-AUG2020	N	1	Phenol	270 U	170	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-B-AUG2020	N	1	1,2,4,5-Tetrachlorobenzene	270 U	150	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-B-AUG2020	N	1	2,4-Dichlorophenol	270 U	160	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-B-AUG2020	N	1	2,4-Dimethylphenol	270 U	180	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-B-AUG2020	N	1	2,4-Dinitrophenol	680 U	420	680	900	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-B-AUG2020	N	1	2,6-Dinitrotoluene	270 U	87.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-B-AUG2020	N	1	2-Chlorophenol	270 U	180	270	360	330	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW15-B-AUG2020	N	1	2-Methylphenol (o-Cresol)	270 U	220	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-B-AUG2020	N	1	2-Nitroaniline	680 U	83.0	680	900	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-B-AUG2020	N	1	3,3'-Dichlorobenzidine	270 U	120	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-B-AUG2020	N	1	4,6-Dinitro-2-methylphenol	680 U	370	680	900	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-B-AUG2020	N	1	4-Chloroaniline	270 U	130	270	360	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-B-AUG2020	N	1	Atrazine	270 UJ	100	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-B-AUG2020	N	1	Benzyl butyl phthalate	270 U	100	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-B-AUG2020	N	1	Biphenyl (Diphenyl)	270 U	80.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-B-AUG2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	270 U	89.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-B-AUG2020	N	1	bis(2-Ethylhexyl) phthalate	1500 J	110	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-B-AUG2020	N	1	Carbazole	230 J	120	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-B-AUG2020	N	1	Dibenzofuran	110 J	87.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-B-AUG2020	N	1	Diethyl phthalate	270 U	88.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-B-AUG2020	N	1	Dimethyl phthalate	270 U	86.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-B-AUG2020	N	1	Di-n-butyl phthalate	270 U	110	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-B-AUG2020	N	1	Di-n-octyl phthalate	270 U	230	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-B-AUG2020	N	1	Hexachlorobenzene	270 U	90.0	270	360	330	ug/kg

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Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW15-B-AUG2020	N	1	Hexachlorobutadiene	270 U	92.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-B-AUG2020	N	1	Hexachlorocyclopentadiene	270 U	90.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-B-AUG2020	N	1	Hexachloroethane	270 U	100	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-B-AUG2020	N	1	n-Nitrosodi-n-propylamine	270 U	92.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-B-AUG2020	N	1	n-Nitrosodiphenylamine	270 U	240	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-B-AUG2020	N	1	Pentachlorophenol	680 U	260	680	900	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-B-AUG2020	N	1	Phenol	270 U	170	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-C-AUG2020	N	1	1,2,4,5-Tetrachlorobenzene	320 U	170	320	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-C-AUG2020	N	1	2,4-Dichlorophenol	320 U	190	320	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-C-AUG2020	N	1	2,4-Dimethylphenol	320 U	210	320	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-C-AUG2020	N	1	2,4-Dinitrophenol	790 U	480	790	1000	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-C-AUG2020	N	1	2,6-Dinitrotoluene	320 U	100	320	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-C-AUG2020	N	1	2-Chlorophenol	320 U	210	320	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-C-AUG2020	N	1	2-Methylphenol (o-Cresol)	320 U	260	320	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-C-AUG2020	N	1	2-Nitroaniline	790 U	96.0	790	1000	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-C-AUG2020	N	1	3,3'-Dichlorobenzidine	320 U	140	320	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-C-AUG2020	N	1	4,6-Dinitro-2-methylphenol	790 U	430	790	1000	820	ug/kg

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Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW15-C-AUG2020	N	1	4-Chloroaniline	320 U	150	320	420	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-C-AUG2020	N	1	Atrazine	320 UJ	120	320	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-C-AUG2020	N	1	Benzyl butyl phthalate	320 U	120	320	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-C-AUG2020	N	1	Biphenyl (Diphenyl)	320 U	93.0	320	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-C-AUG2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	320 U	100	320	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-C-AUG2020	N	1	bis(2-Ethylhexyl) phthalate	980 J	120	320	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-C-AUG2020	N	1	Carbazole	320 U	140	320	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-C-AUG2020	N	1	Dibenzofuran	320 U	100	320	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-C-AUG2020	N	1	Diethyl phthalate	320 U	100	320	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-C-AUG2020	N	1	Dimethyl phthalate	320 U	100	320	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-C-AUG2020	N	1	Di-n-butyl phthalate	320 U	130	320	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-C-AUG2020	N	1	Di-n-octyl phthalate	320 U	270	320	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-C-AUG2020	N	1	Hexachlorobenzene	320 U	100	320	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-C-AUG2020	N	1	Hexachlorobutadiene	320 U	110	320	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-C-AUG2020	N	1	Hexachlorocyclopentadiene	320 U	100	320	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-C-AUG2020	N	1	Hexachloroethane	320 U	120	320	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-C-AUG2020	N	1	n-Nitrosodi-n-propylamine	320 U	110	320	420	330	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW15-C-AUG2020	N	1	n-Nitrosodiphenylamine	320 U	280	320	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-C-AUG2020	N	1	Pentachlorophenol	790 U	300	790	1000	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW15-C-AUG2020	N	1	Phenol	320 U	200	320	420	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-A-AUG2020	N	1	1,2,4,5-Tetrachlorobenzene	290 U	160	290	390	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-A-AUG2020	N	1	2,4-Dichlorophenol	290 U	180	290	390	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-A-AUG2020	N	1	2,4-Dimethylphenol	290 U	190	290	390	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-A-AUG2020	N	1	2,4-Dinitrophenol	720 U	440	720	960	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-A-AUG2020	N	1	2,6-Dinitrotoluene	290 U	93.0	290	390	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-A-AUG2020	N	1	2-Chlorophenol	290 U	190	290	390	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-A-AUG2020	N	1	2-Methylphenol (o-Cresol)	290 U	240	290	390	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-A-AUG2020	N	1	2-Nitroaniline	720 U	88.0	720	960	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-A-AUG2020	N	1	3,3'-Dichlorobenzidine	290 U	130	290	390	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-A-AUG2020	N	1	4,6-Dinitro-2-methylphenol	720 U	400	720	960	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-A-AUG2020	N	1	4-Chloroaniline	290 U	140	290	390	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-A-AUG2020	N	1	Atrazine	290 UJ	110	290	390	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-A-AUG2020	N	1	Benzyl butyl phthalate	290 U	110	290	390	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-A-AUG2020	N	1	Biphenyl (Diphenyl)	290 U	86.0	290	390	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-A-AUG2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	290 U	95.0	290	390	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-A-AUG2020	N	1	bis(2-Ethylhexyl) phthalate	2100 J	120	290	390	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-A-AUG2020	N	1	Carbazole	290 U	130	290	390	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-A-AUG2020	N	1	Dibenzofuran	290 U	93.0	290	390	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-A-AUG2020	N	1	Diethyl phthalate	290 U	94.0	290	390	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-A-AUG2020	N	1	Dimethyl phthalate	290 U	92.0	290	390	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-A-AUG2020	N	1	Di-n-butyl phthalate	290 U	120	290	390	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-A-AUG2020	N	1	Di-n-octyl phthalate	290 U	250	290	390	330	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW6-A-AUG2020	N	1	Hexachlorobenzene	290 U	96.0	290	390	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-A-AUG2020	N	1	Hexachlorobutadiene	290 U	98.0	290	390	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-A-AUG2020	N	1	Hexachlorocyclopentadiene	290 U	96.0	290	390	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-A-AUG2020	N	1	Hexachloroethane	290 U	110	290	390	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-A-AUG2020	N	1	n-Nitrosodi-n-propylamine	290 U	98.0	290	390	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-A-AUG2020	N	1	n-Nitrosodiphenylamine	290 U	260	290	390	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-A-AUG2020	N	1	Pentachlorophenol	720 U	280	720	960	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-A-AUG2020	N	1	Phenol	290 U	180	290	390	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-B-AUG2020	N	1	1,2,4,5-Tetrachlorobenzene	280 UJ	150	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-B-AUG2020	N	1	2,4-Dichlorophenol	280 UJ	170	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-B-AUG2020	N	1	2,4-Dimethylphenol	280 UJ	180	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-B-AUG2020	N	1	2,4-Dinitrophenol	690 UJ	420	690	920	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-B-AUG2020	N	1	2,6-Dinitrotoluene	280 UJ	89.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-B-AUG2020	N	1	2-Chlorophenol	280 UJ	180	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-B-AUG2020	N	1	2-Methylphenol (o-Cresol)	280 UJ	220	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-B-AUG2020	N	1	2-Nitroaniline	690 UJ	84.0	690	920	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-B-AUG2020	N	1	3,3'-Dichlorobenzidine	280 UJ	130	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-B-AUG2020	N	1	4,6-Dinitro-2-methylphenol	690 UJ	380	690	920	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-B-AUG2020	N	1	4-Chloroaniline	280 UJ	130	280	370	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-B-AUG2020	N	1	Atrazine	280 UJ	100	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-B-AUG2020	N	1	Benzyl butyl phthalate	280 UJ	100	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-B-AUG2020	N	1	Biphenyl (Diphenyl)	280 UJ	82.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-B-AUG2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	280 UJ	91.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-B-AUG2020	N	1	bis(2-Ethylhexyl) phthalate	1400 J	110	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-B-AUG2020	N	1	Carbazole	280 UJ	120	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-B-AUG2020	N	1	Dibenzofuran	280 UJ	89.0	280	370	330	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW6-B-AUG2020	N	1	Diethyl phthalate	280 UJ	90.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-B-AUG2020	N	1	Dimethyl phthalate	280 UJ	88.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-B-AUG2020	N	1	Di-n-butyl phthalate	280 UJ	110	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-B-AUG2020	N	1	Di-n-octyl phthalate	280 UJ	240	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-B-AUG2020	N	1	Hexachlorobenzene	280 UJ	92.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-B-AUG2020	N	1	Hexachlorobutadiene	280 UJ	93.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-B-AUG2020	N	1	Hexachlorocyclopentadiene	280 UJ	92.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-B-AUG2020	N	1	Hexachloroethane	280 UJ	110	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-B-AUG2020	N	1	n-Nitrosodi-n-propylamine	280 UJ	93.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-B-AUG2020	N	1	n-Nitrosodiphenylamine	280 UJ	250	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-B-AUG2020	N	1	Pentachlorophenol	690 UJ	270	690	920	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW6-B-AUG2020	N	1	Phenol	280 UJ	180	280	370	330	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
C	LCS Recovery
D	MS RPD
D3	Field Duplicate RPD
H1	Test Hold Time
H2	Prep Hold Time
I	Surrogate recovery outside project limits.
L	Lab Blank
M	MS Recovery
T	Trip Blank
TR	Trace Level Detect
V	Equipment Blank

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: BNASIM (GC/MS-SIM Analysis by SW8270)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			note: surrogate recoveries for sample -001DL were diluted to below reliably quantifiable levels so were not used to qualify results.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG285184-1RA method blank had detections below the LOQ for benzo (b)fluoranthene, benzo(k)fluoranthene, benzo (a)pyrene, indeno(123cd)pyrene, dibenzo (ah)anthracene, benzo(ghi)perylene and chrysene. Client sample -008 results for all these results with the exception of chrysene were qualified as non-detect at either the LOD or the LOQ and qualified with U flags and L reason codes. QC batch WG285191-1 method blank had a detection for benzo(a)anthracene. Field samples associated with this method blank were not used as final reportable results so qualifications were not made in the database based on this method blank detection. QC batch WG285634-1 method blank had detections below the LOQ for benzo (b)fluoranthene, benzo(k)fluoranthene, dibenzo (ah)anthracene, benzo(a)pyrene, benzo (ghi)perylene and indeno(123cd)pyrene. This method blank was not associated with reportable results so was not used to qualify field data.
Were target analytes in the field blank less than MDL?		•		Equipment blank detections were not used to qualify field sample results.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch WG285191-2 LCS had recoveries biased low for benzo(b)fluoranthene. Client samples -001, -002, -003, -005, -006, -007 results for this analtye were qualified as estimated with J flags if detected and UJ flags if non-detect.
Was the LCS/LCSD RPD within project acceptance limits?			•	LCS only.
Was a MS/MSD pair prepared with each batch?	•			

Review Questions

Method: BNASIM (GC/MS-SIM Analysis by SW8270)				
Review Questions	Yes	No	NA	Comment
Were MS/MSD recoveries within project acceptance limits?		•		Sample -004 MS/MSD recoveries were ALL outside of project criteria biased low and high except for acenaphthylene. Since most of the spike recoveries were not used due to 4X rule only the following edits were made to the database based on these MS/MSD outliers: NAPHTHALENE, 2-METHYLNAPHTHALENE, ACENAPHTHENE, DIBENZO (AH)ANTHRACENE, FLUORENE - M reason codes and all (except acenaphthylene) RPD's were outliers so all results also received D reason codes. NOTE: sample -001 (parent sample for field duplicate) was also qualified in the same manner. Sample -005 MS/MSD recoveries were ALL outside of project criteria biased low and high except for acenaphthylene. Since most of the spike recoveries were not used due to 4X rule only the following edits were made to the database based on these MS/MSD outliers: NAPHTHALENE, 2-METHYLNAPHTHALENE, DIBENZO(AH)ANTHRACENE - M reason codes and all (except acenaphthylene, 2-methylnaphthylene, dibenzo(ah)anthracene) RPD's were outliers so all results also received D reason codes. NOTE: sample -002 (parent sample for field duplicate) was also qualified in the same manner.
Was the MS/MSD RPD within project acceptance limits?		•		see above for narration.
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?		•		Samples -001 (field) and -004 (field duplicate) duplicate RPD's were outside of project criteria for all target analytes EXCEPT 2-methylnaphthalene, naphthalene, acenaphthylene and fluorene. Samples -002 (field) and -005 (field duplicate) duplicate RPD's were outside of project criteria for all target analytes EXCEPT 2-methylnaphthalene, naphthalene and acenaphthylene. These outliers were qualified as estimated with J flags and D3 reason codes. NOTE: analytes associated with results below the LOQ or ND were not subject to qualification.
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Internal standard and calibration outlier issues noted in case narrative were not addressed as part of this stage 2A validation review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data rejected during the verification process?		•		

Review Questions

Method: LYDKHN (Lloyd Kahn Method for the Determination of Total Organic Carbon in Sediment, USEPA Region II Method)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			H2 flags were removed for soil samples since all within project holding times of 24 days.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?	•			
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW6010 (Trace Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch NH28IMW2 had detections below the LOQ for aluminum, copper, magnesium, sodium. Client sample -008 results for these metals were qualified as non-detect at the LOD and qualified with U flags and L reason codes. QC batch PBSNH31ICS1 had detections below the LOQ for aluminum, calcium, chromium, iron, magnesium, potassium, sodium and QC batch PBSNI01HCS1 detections for aluminum, barium, calcium, chromium, magnesium, potassium, sodium and zinc and QC batch NI02ICS1 for magnesium and nickel. Qualifications were not required based on these soil prep batch method blank detections.
Were target analytes in the field blank less than MDL?		•		Equipment blank detections were not used to qualify soil field sample detections.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			lcs only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		MS/MSD for sample -004 were outliers biased low for antimony, lead, nickel, zinc and copper and biased high for potassium with MS/MSD RPD outlier for silver. MS recoveries were subject to the 4X rule for aluminum, calcium, iron, magnesium and manganese. Client samples -004 and -001 (field duplicate source sample) results for antimony, lead, nickel, zinc, potassium and copper were qualified estimated with J flags and M reason codes. Flags were removed for vanadium for samples -001 and -004.MS/MSD for sample -005 were outliers biased low for antimony, zinc, potassium and biased high for chromium, arsenic, copper and silver and biased high and low for lead with MS/MSD RPD outliers for copper and silver. MS recoveries were subject to the 4X rule for aluminum, calcium, iron, magnesium and manganese. Client samples -005 and -002 (field duplicate source sample) results for antimony, lead, zinc, potassium, chromium, arsenic and copper were qualified estimated with J flags and M reason codes. Silver did not require qualification since results were non-detect with a high MS bias.

Review Questions

Method: SW6010 (Trace Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry)				
Review Questions	Yes	No	NA	Comment
Was the MS/MSD RPD within project acceptance limits?		•		See MS narration for RPD outliers. In addition to copper and silver the 4X result MS/MSD RPD's were outliers for iron, manganese, potassium in sample -004 and calcium, potassium, manganese for sample -005. Associated field sample results (-004 and -001 for iron, manganese, potassium, silver) (-005 and -002 for calcium, copper, iron, manganese and silver) were qualified estimated with D reason codes.
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?		•		Field duplicate -004 and field sample -001 duplicate RPD's were outside of project criteria for chromium and manganese. These results were qualified with D3 reason codes in both samples.
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW6020 (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch NH28IMW2 had detections below the LOQ for aluminum, copper, magnesium, sodium. Client sample -008 results for these metals were qualified as non-detect at either the LOD or the LOQ and qualified with U flags and L reason codes
Were target analytes in the field blank less than MDL?		•		Qualifications of soil field results were not qualified based on these aqueous EB detections.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7196 (Chromium, Hexavalent (Colorimetric))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			H1 reason codes were removed for soil samples since holding times were within project criteria.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG285198 had a detection below the LOQ. Field sample -008 result was qualified as non-detect with a U flag and L reason code.
Were target analytes in the field blank less than MDL?		•		Detection as noted above was qualified non-detect based on method blank detections.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only.
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		Based on spike concentrations it appears that samples -004 and -005 were spiked for soluble and insoluble MS as required by method. No MS/MSD pairs were actually analyzed.
Were MS/MSD recoveries within project acceptance limits?		•		MS/MSD for sample -004 were outliers biased low. Field samples -004 (and -001 parent sample for field duplicate) were qualified estimated with UJ flags and M reason codes.
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?	•			field sample -008
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7470 (Mercury in Liquid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -008 MS and MS/MSD RPD were outside of criteria with the recovery biased low. Field sample -008 was qualified estimated with J flag and M/D reason codes.
Was the MS/MSD RPD within project acceptance limits?		•		See MS outlier narration.
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7471 (Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			Qualifications of soil field results were not qualified based on the aqueous EB detections.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?	•			
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW8260 (Volatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		One of four surrogate recoveries were biased high in client samples -003 and -007. Methylene chloride results in these samples should be considered estimated and qualified with J flags. One of four surrogate recoveries was biased high and 2 of 4 biased low in client sample -002. All field sample -002 results should be considered estimated and qualified with UJ flags if non-detect and J flags if detected. NOTE: all re-analysis sample surrogate recoveries were biased low for 1 of 4 surrogates so were not used as final results.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG285741-10 and WG285988-2 method blanks had detections below the LOQ for methylene chloride. Client samples -004 and -005 methylene chloride results were qualified as non-detect at the LOD and qualified with U flags and L reason codes.
Were target analytes in the field blank less than MDL?		•		Trip blank had a detection below the LOQ for methylene chloride and equipment blank detections were for methylene chloride and toluene.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -004 MS/MSD recoveries were outliers biased low for most target analytes. Sample -001(field duplicate parent sample) and -004 result qualifications are summarized in appropriate QC outlier table. Sample -005 MS/MSD recoveries were outliers biased low for multiple target analytes. Please see appropriate QC outlier table for detailed list of sample -005 and -002 (parent sample to field duplicate -005) target analyte flags.
Was the MS/MSD RPD within project acceptance limits?		•		Sample -004 MS/MSD RPD's were outliers for 2-hexanone, isopropylbenzene, methylacetate. Sample -001 (parent sample for -004 field duplicate) and -004 results associated with these outliers were non-detect so qualification was not required based on these MS/MSD RPD outliers.
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary

Review Questions

Method: SW8260 (Volatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Internal standard, CCV outlier issues noted in case narrative were not addressed as part of this stage 2A validation review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data rejected during the verification process?		•		

Review Questions

Method: SW8270 (Semivolatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			Sample -007 was re-analyzed outside of holding time (-007RA) so this data was not used for final reportable results.
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Sample -007 original analysis had 5 of 6 surrogate outliers biased low. All results were qualified as estimated with UJ flags if non-detect and J flags if detected and I reason codes.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batches WG285192-1 and WG285635-1 had detections above the LOQ for bis-2-ethylhexylphthalate. Client samples -001, -002, -003, -004, -005, -006, -007 results for this analyte were qualified as non-detect at the LOQ with U flags and L reason codes.
Were target analytes in the field blank less than MDL?		•		Equipment blank had a detection for diethylphthalate below the LOQ.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch WG285192-2 recoveries were biased high for benzaldehyde, 3,3-dichlorobenzidine, bis-2-ethylhexylphthalate and biased low for caprolactam and atrazine. Client samples -001, -002, -003, -004, -005, -006, -007 results for caprolactam and atrazine should be considered estimated and qualified with UJ flags and C reason codes and bis-2-ethylhexylphthalate results for samples -001 and -004 J flagged with C reason codes. QC batch WG285183-2 recoveries were biased high for benzaldehyde and biased low below 10% for caprolactam. Client sample -008 caprolactam results should be considered unusable and was qualified with an X flag and C reason code. QC batch WG285635 LCS high bias outliers for benzaldehyde and bis-2-ethylhexylphthalate and low bias outlier for caprolactam were not associated with any final reportable results.
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			

Review Questions

Method: SW8270 (Semivolatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Were MS/MSD recoveries within project acceptance limits?		•		Sample -004 MS/MSD recoveries were outliers biased high for benzaldehyde and bis-2-ethylhexylphthalate and biased low with an RPD outlier for 4-chloroaniline and RPD outlier only for 2,4-dimethylphenol. Client samples -001 (duplicate source sample) and -004 results for bis-2-ethylhexylphthalate were qualified estimated with J flags and 4-chloroaniline qualified estimated with UJ flags and M reason codes. Sample -005 MS/MSD recoveries were outliers biased high for benzidine and bis-2-ethylhexylphthalate. Client samples -002 (duplicate source sample) and -005 bis-2-ethylhexylphthalate results were qualified estimated with J flags and M reason codes.
Was the MS/MSD RPD within project acceptance limits?		•		See RPD comments above in MS/MSD outlier section.
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		ICAL, ICV, calibration and peak tailing outlier issues noted in case narrative were not addressed as part of this stage 2A validation review.
Were DoD QSM corrective actions followed if deviations were noted?		•		CA's for all of the above outliers could not be confirmed from the stage 2A report.
Were any data rejected during the verification process?	•			Caprolactam results for field sample -008.

Review Questions

Method: SW9045 (Soil pH)

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?			•	
Were target analytes in the method blank less than MDL?			•	
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	SN7239
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Katahdin Analytical Services, Westbrook, ME
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	December 15, 2020 - Resubmitted Januay 26, 2021 based on DoD Chemist review

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	BNASIM	LYDKHN	SW6010	SW6020	SW7196	SW7470	SW7471	SW8260	SW8270	SW9045
NHFLA-MW13-A-AUG2020	SN7239-1	Solid	Field Sample/N	X	X	X		X		X	X	X	X
NHFLA-MW13-B-AUG2020	SN7239-2	Solid	Field Sample/N	X	X	X		X		X	X	X	
NHFLA-MW13-C-AUG2020	SN7239-3	Solid	Field Sample/N	X	X	X		X		X	X	X	
NHFLA-EB8-AUG2020	SN7239-4	Water	Equipment Blank/EB	X			X	X	X		X	X	
NHFLA-TB9-AUG2020	SN7239-5	Water	Trip Blank/TB								X		

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Katahdin Analytical Services, Westbrook, ME and were reported under sample delivery group (SDG) SN7239. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Extracted Internal Standard
- Lab Blank
- Lab Replicate RPD
- LCS Recovery
- LCS RPD
- MS Recovery
- Prep Hold Time
- Surrogate
- Test Hold Time
- Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 130 results (20.87%) out of the 623 results (sample and field QC samples) reported are qualified based on review and 0 results (0.00%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Hydrazine field sample results and QC are included in this SDG but electronic data is in separate SDG (13059-1). Please reference validation report 13059-1 for data qualification summary.

Analytical Method	Data Reviewer Comment
BNASIM	No additional comments; see Checklist for detail.
LYDKHN	No additional comments; see Checklist for detail.
SW6010	No additional comments; see Checklist for detail.
SW6020	No additional comments; see Checklist for detail.
SW7196	No additional comments; see Checklist for detail.
SW7470	No additional comments; see Checklist for detail.
SW7471	No additional comments; see Checklist for detail.
SW8260	No additional comments; see Checklist for detail.
SW8270	No additional comments; see Checklist for detail.
SW9045	No additional comments; see Checklist for detail.

Jim Tomalia

January 26, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method LYDKHN, Prep Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of extraction found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW13-A-AUG2020 (N)/ SN7239-1		6.930	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW13-B-AUG2020 (N)/ SN7239-2		6.900	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW13-C-AUG2020 (N)/ SN7239-3		6.860	< 0	< 0	days	J/X	H2	Prep Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6010, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBSNI01ICS1 (LB)/ PBSNI01ICS1	Barium	0.02800	< 0.025	< 0.5	mg/kg	U/None	L	
PBSNI01ICS1 (LB)/ PBSNI01ICS1	Chromium	0.08700	< 0.026	< 1	mg/kg	U/None	L	
PBSNI01ICS1 (LB)/ PBSNI01ICS1	Zinc	0.2000	< 0.17	< 2	mg/kg	U/None	L	
PBSNI01ICS1 (LB)/ PBSNI01ICS1	Magnesium	1.500	< 0.68	< 10	mg/kg	U/None	L	
PBSNI01ICS1 (LB)/ PBSNI01ICS1	Aluminum	2.200	< 0.71	< 30	mg/kg	U/None	L	
PBSNI01ICS1 (LB)/ PBSNI01ICS1	Sodium	3.500	< 1.5	< 100	mg/kg	U/None	L	
PBSNI01ICS1 (LB)/ PBSNI01ICS1	Potassium	5.400	< 2.9	< 100	mg/kg	U/None	L	
PBSNI01ICS1 (LB)/ PBSNI01ICS1	Calcium	6.400	< 1.8	< 10	mg/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB8-AUG2020 (EB)/ SN7239-4	Cadmium	0.04700	< 0.029	< 1	ug/l	U/None	V	
NHFLA-EB8-AUG2020 (EB)/ SN7239-4	Beryllium	0.05700	< 0.034	< 1	ug/l	U/None	V	
NHFLA-EB8-AUG2020 (EB)/ SN7239-4	Cobalt	0.1600	< 0.06	< 1	ug/l	U/None	V	
NHFLA-EB8-AUG2020 (EB)/ SN7239-4	Antimony	0.1700	< 0.055	< 1	ug/l	U/None	V	
NHFLA-EB8-AUG2020 (EB)/ SN7239-4	Thallium	0.2000	< 0.06	< 1	ug/l	U/None	V	
NHFLA-EB8-AUG2020 (EB)/ SN7239-4	Nickel	1.100	< 0.15	< 2	ug/l	U/None	V	
NHFLA-EB8-AUG2020 (EB)/ SN7239-4	Manganese	1.600	< 0.35	< 2	ug/l	U/None	V	
NHFLA-EB8-AUG2020 (EB)/ SN7239-4	Lead	1.860	< 0.075	< 1	ug/l	U/None	V	
NHFLA-EB8-AUG2020 (EB)/ SN7239-4	Barium	1.900	< 0.27	< 2	ug/l	U/None	V	
NHFLA-EB8-AUG2020 (EB)/ SN7239-4	Calcium	110.0	< 21	< 100	ug/l	U/None	V	
NHFLA-EB8-AUG2020 (EB)/ SN7239-4	Chromium	2.210	< 0.22	< 5	ug/l	U/None	V	
NHFLA-EB8-AUG2020 (EB)/ SN7239-4	Iron	23.00	< 13	< 100	ug/l	U/None	V	
NHFLA-EB8-AUG2020 (EB)/ SN7239-4	Aluminum	234.0	< 4.4	< 100	ug/l	U/None	V	
NHFLA-EB8-AUG2020 (EB)/ SN7239-4	Sodium	240.0	< 19	< 1000	ug/l	U/None	V	
NHFLA-EB8-AUG2020 (EB)/ SN7239-4	Zinc	30.00	< 3.9	< 10	ug/l	U/None	V	
NHFLA-EB8-AUG2020 (EB)/ SN7239-4	Magnesium	30.00	< 8	< 100	ug/l	U/None	V	
NHFLA-EB8-AUG2020 (EB)/ SN7239-4	Potassium	47.00	< 31	< 1000	ug/l	U/None	V	
NHFLA-EB8-AUG2020 (EB)/ SN7239-4	Copper	8.160	< 0.19	< 3	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNH31IMW2 (LB)/ PBWNH31IMW2	Beryllium	0.04500	< 0.034	< 1	ug/l	U/None	L	
PBWNH31IMW2 (LB)/ PBWNH31IMW2	Lead	0.2000	< 0.074	< 1	ug/l	U/None	L	
PBWNH31IMW2 (LB)/ PBWNH31IMW2	Manganese	0.5600	< 0.35	< 2	ug/l	U/None	L	
PBWNH31IMW2 (LB)/ PBWNH31IMW2	Barium	0.8100	< 0.27	< 2	ug/l	U/None	L	
PBWNH31IMW2 (LB)/ PBWNH31IMW2	Copper	0.8400	< 0.18	< 3	ug/l	U/None	L	
PBWNH31IMW2 (LB)/ PBWNH31IMW2	Chromium	1.400	< 0.22	< 5	ug/l	U/None	L	
PBWNH31IMW2 (LB)/ PBWNH31IMW2	Calcium	25.00	< 20	< 100	ug/l	U/None	L	
PBWNH31IMW2 (LB)/ PBWNH31IMW2	Magnesium	27.00	< 7.8	< 100	ug/l	U/None	L	
PBWNH31IMW2 (LB)/ PBWNH31IMW2	Sodium	326.0	< 19	< 1000	ug/l	U/None	L	
PBWNH31IMW2 (LB)/ PBWNH31IMW2	Potassium	56.00	< 31	< 1000	ug/l	U/None	L	
PBWNH31IMW2 (LB)/ PBWNH31IMW2	Aluminum	8.900	< 4.4	< 100	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB8-AUG2020	EB	Barium	2.00	1.90 J	2.00 U		ug/l	L
NHFLA-EB8-AUG2020	EB	Beryllium	1.00	0.0570 J	0.200 U		ug/l	L
NHFLA-EB8-AUG2020	EB	Calcium	110	110	110 U		ug/l	L
NHFLA-EB8-AUG2020	EB	Chromium	5.00	2.21 J	4.00 U		ug/l	L
NHFLA-EB8-AUG2020	EB	Magnesium	100	30.0 J	80.0 U		ug/l	L
NHFLA-EB8-AUG2020	EB	Manganese	2.00	1.60 J	2.00 U		ug/l	L
NHFLA-EB8-AUG2020	EB	Potassium	1000	47.0 J	400 U		ug/l	L
NHFLA-EB8-AUG2020	EB	Sodium	1000	240 J	400 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB8-AUG2020 (EB)/ SN7239-4	Chromium, Hexavalent	0.001200	< 0.00076	< 0.025	mg/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7196, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285231-1 (LB)/ WG285231-1	Chromium, Hexavalent	0.001300	< 0.00076	< 0.025	mg/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB8-AUG2020	EB	Chromium, Hexavalent	0.0250	0.00120 J	0.0125 U		mg/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW13-A-AUG2020 (N)/ SN7239-1		7.240	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-MW13-B-AUG2020 (N)/ SN7239-2		7.210	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-MW13-C-AUG2020 (N)/ SN7239-3		7.160	< 1	< 2	days	J/X	H1	Test Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB8-AUG2020 (EB)/ SN7239-4	Methylene chloride	1.400	< 1.1	< 5	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285324-2 (LB)/ WG285324-2	Methylene chloride	1.100	< 1.1	< 5	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB8-AUG2020	EB	Methylene chloride	5.00	1.40 J	2.50 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285867-2 (LB)/ WG285867-2	Methylene chloride	11.00	< 7.9	< 25	ug/kg	U/None	L	
WG286120-2 (LB)/ WG286120-2	Methylene chloride	11.00	< 7.9	< 25	ug/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW13-A-AUG2020	N	Methylene chloride	23.0	15.0 J	23.0 UJ		ug/kg	L/I
NHFLA-MW13-B-AUG2020	N	Methylene chloride	21.0	13.0 J	21.0 UJ		ug/kg	L/H1
NHFLA-MW13-C-AUG2020	N	Methylene chloride	21.0	11.0 J	21.0 U		ug/kg	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW13-A-AUG2020 (N)/ SN7239-1	1-Bromo-4-fluorobenzene (4-Bromofluorobenzene)	75.60	79 - 119	10 - 119	percent	J/UJ	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW13-A-AUG2020	N	1,1,1-Trichloroethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	1,1,2,2-Tetrachloroethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	1,1,2-Trichloroethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	1,1-Dichloroethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	1,1-Dichloroethene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	1,2,3-Trichlorobenzene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	1,2,4-Trichlorobenzene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	1,2-Dibromo-3-chloropropane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	1,2-Dibromoethane (EDB)	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	1,2-Dichlorobenzene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	1,2-Dichloroethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	1,2-Dichloropropane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	1,3-Dichlorobenzene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	1,4-Dichlorobenzene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	2-Butanone (MEK)	23.0	11.0 U	11.0 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	2-Hexanone	23.0	11.0 U	11.0 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	4-Methyl-2-pentanone (MIBK)	23.0	11.0 U	11.0 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Acetone	23.0	11.0 U	11.0 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Benzene	4.60	2.30 U	2.30 UJ		ug/kg	I

Qualified Results associated with the Surrogate for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW13-A-AUG2020	N	Bromochloromethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Bromodichloromethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Bromoform	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Bromomethane	9.10	4.60 U	4.60 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Carbon disulfide	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Carbon tetrachloride	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Chlorobenzene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Chloroethane	9.10	4.60 U	4.60 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Chloroform	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Chloromethane	9.10	4.60 U	4.60 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	cis-1,2-Dichloroethene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	cis-1,3-Dichloropropene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Cyclohexane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Dibromochloromethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Dichlorodifluoromethane	9.10	4.60 U	4.60 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Ethylbenzene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Isopropylbenzene (Cumene)	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	m,p-Xylene	9.10	4.60 U	4.60 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Methyl acetate	4.60	2.70 U	2.70 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Methyl tert-butyl ether (MTBE)	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Methylcyclohexane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Methylene chloride	23.0	15.0 J	23.0 UJ		ug/kg	L/I
NHFLA-MW13-A-AUG2020	N	o-Xylene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Styrene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Tetrachloroethene (PCE)	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Toluene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	trans-1,2-Dichloroethene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	trans-1,3-Dichloropropene	4.60	2.30 U	2.30 UJ		ug/kg	I

Qualified Results associated with the Surrogate for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW13-A-AUG2020	N	Trichloroethene (TCE)	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Trichlorofluoromethane	9.10	4.60 U	4.60 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Vinyl chloride	9.10	4.60 U	4.60 UJ		ug/kg	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW13-A-AUG2020 (N)/ SN7239-1		14.17	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL
NHFLA-MW13-B-AUG2020 (N)/ SN7239-2		18.12	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL
NHFLA-MW13-C-AUG2020 (N)/ SN7239-3		14.14	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Test Hold Time for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW13-B-AUG2020	N	1,1,1-Trichloroethane	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	1,1,2,2-Tetrachloroethane	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	1,1,2-Trichloroethane	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	1,1-Dichloroethane	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	1,1-Dichloroethene	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	1,2,3-Trichlorobenzene	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	1,2,4-Trichlorobenzene	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	1,2-Dibromo-3-chloropropane	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	1,2-Dibromoethane (EDB)	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	1,2-Dichlorobenzene	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	1,2-Dichloroethane	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	1,2-Dichloropropane	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	1,3-Dichlorobenzene	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	1,4-Dichlorobenzene	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	2-Butanone (MEK)	21.0	10.0 U	10.0 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	2-Hexanone	21.0	10.0 U	10.0 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	4-Methyl-2-pentanone (MIBK)	21.0	10.0 U	10.0 UJ		ug/kg	H1

Qualified Results associated with the Test Hold Time for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW13-B-AUG2020	N	Acetone	21.0	18.0 J	18.0 J	-	ug/kg	H1/TR
NHFLA-MW13-B-AUG2020	N	Benzene	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Bromochloromethane	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Bromodichloromethane	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Bromoform	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Bromomethane	8.40	4.20 U	4.20 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Carbon disulfide	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Carbon tetrachloride	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Chlorobenzene	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Chloroethane	8.40	4.20 U	4.20 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Chloroform	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Chloromethane	8.40	4.20 U	4.20 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	cis-1,2-Dichloroethene	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	cis-1,3-Dichloropropene	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Cyclohexane	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Dibromochloromethane	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Dichlorodifluoromethane	8.40	4.20 U	4.20 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Ethylbenzene	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Isopropylbenzene (Cumene)	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	m,p-Xylene	8.40	4.20 U	4.20 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Methyl acetate	4.20	2.50 U	2.50 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Methyl tert-butyl ether (MTBE)	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Methylcyclohexane	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Methylene chloride	21.0	13.0 J	21.0 UJ		ug/kg	L/H1
NHFLA-MW13-B-AUG2020	N	o-Xylene	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Styrene	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Tetrachloroethene (PCE)	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Toluene	4.20	2.10 U	2.10 UJ		ug/kg	H1

Qualified Results associated with the Test Hold Time for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW13-B-AUG2020	N	trans-1,2-Dichloroethene	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	trans-1,3-Dichloropropene	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Trichloroethene (TCE)	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Trichlorofluoromethane	8.40	4.20 U	4.20 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Vinyl chloride	8.40	4.20 U	4.20 UJ		ug/kg	H1

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB8-AUG2020 (EB)/ SN7239-4	Diethyl phthalate	4.200	< 1.9	< 9.7	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285454-1 (LB)/ WG285454-1	Bis(2-ethylhexyl)phthalate	14.00	< 1.7	< 10	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285330-1 (LB)/ WG285330-1	Bis(2-ethylhexyl)phthalate	4600	< 98	< 330	ug/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW13-A-AUG2020	N	Bis(2-ethylhexyl)phthalate	360	3000 BL	3000 J	+	ug/kg	L/C
NHFLA-MW13-B-AUG2020	N	Bis(2-ethylhexyl)phthalate	380	3700 BL	3700 J	+	ug/kg	L/C
NHFLA-MW13-C-AUG2020	N	Bis(2-ethylhexyl)phthalate	380	4800 BL	4800 J	+	ug/kg	L/C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285387-2 (BS)/ WG285387-2	Benzaldehyde	368.0	10 - 189	10 - 189	percent	J/None	C	
WG285454-2 (BS)/ WG285454-2	Benzaldehyde	314.0	10 - 189	10 - 189	percent	J/None	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285330-2 (BS)/ WG285330-2	3,3'-Dichlorobenzidine	125.1	22 - 121	10 - 121	percent	J/None	C	
WG285330-2 (BS)/ WG285330-2	Bis(2-ethylhexyl)phthalate	235.3	51 - 133	10 - 133	percent	J/None	C	
WG285330-2 (BS)/ WG285330-2	Benzaldehyde	237.1	10 - 134	10 - 134	percent	J/None	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW13-A-AUG2020	N	Bis(2-ethylhexyl)phthalate	360	3000 BL	3000 J	+	ug/kg	L/C
NHFLA-MW13-B-AUG2020	N	Bis(2-ethylhexyl)phthalate	380	3700 BL	3700 J	+	ug/kg	L/C
NHFLA-MW13-C-AUG2020	N	Bis(2-ethylhexyl)phthalate	380	4800 BL	4800 J	+	ug/kg	L/C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB8-AUG2020 (EB)/ SN7239-4	2,4,6-Tribromophenol	37.90	43 - 140	10 - 140	percent	J/UJ	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB8-AUG2020	EB	2,4,5-Trichlorophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB8-AUG2020	EB	2,4,6-Trichlorophenol	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB8-AUG2020	EB	2,4-Dichlorophenol	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB8-AUG2020	EB	2,4-Dimethylphenol	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB8-AUG2020	EB	2,4-Dinitrophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB8-AUG2020	EB	2-Chlorophenol	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB8-AUG2020	EB	2-Methylphenol (o-Cresol)	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB8-AUG2020	EB	2-Nitrophenol	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB8-AUG2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB8-AUG2020	EB	4-Chloro-3-methylphenol	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB8-AUG2020	EB	4-Nitrophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB8-AUG2020	EB	Cresols, m- & p-	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB8-AUG2020	EB	Pentachlorophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB8-AUG2020	EB	Phenol	9.70	7.30 U	7.30 UJ		ug/l	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Table of All Qualified Results

Test Method: SW6020	Extraction Method: SW3010							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB8-AUG2020	EB	Barium	2.00	1.90 J	2.00 U		ug/l	L
NHFLA-EB8-AUG2020	EB	Beryllium	1.00	0.0570 J	0.200 U		ug/l	L
NHFLA-EB8-AUG2020	EB	Calcium	110	110	110 U		ug/l	L
NHFLA-EB8-AUG2020	EB	Chromium	5.00	2.21 J	4.00 U		ug/l	L
NHFLA-EB8-AUG2020	EB	Magnesium	100	30.0 J	80.0 U		ug/l	L
NHFLA-EB8-AUG2020	EB	Manganese	2.00	1.60 J	2.00 U		ug/l	L
NHFLA-EB8-AUG2020	EB	Potassium	1000	47.0 J	400 U		ug/l	L
NHFLA-EB8-AUG2020	EB	Sodium	1000	240 J	400 U		ug/l	L

Test Method: SW7196	Extraction Method: NONE							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB8-AUG2020	EB	Chromium, Hexavalent	0.0250	0.00120 J	0.0125 U		mg/l	L

Test Method: SW8260	Extraction Method: SW5030							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB8-AUG2020	EB	Methylene chloride	5.00	1.40 J	2.50 U		ug/l	L

Test Method: SW8260	Extraction Method: SW5035							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW13-A-AUG2020	N	1,1,1-Trichloroethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	1,1,2,2-Tetrachloroethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	1,1,2-Trichloroethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	1,1-Dichloroethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	1,1-Dichloroethene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	1,2,3-Trichlorobenzene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	1,2,4-Trichlorobenzene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	1,2-Dibromo-3-chloropropane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	1,2-Dibromoethane (EDB)	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	1,2-Dichlorobenzene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	1,2-Dichloroethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	1,2-Dichloropropane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	1,3-Dichlorobenzene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	1,4-Dichlorobenzene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	2-Butanone (MEK)	23.0	11.0 U	11.0 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	2-Hexanone	23.0	11.0 U	11.0 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	4-Methyl-2-pentanone (MIBK)	23.0	11.0 U	11.0 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Acetone	23.0	11.0 U	11.0 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Benzene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Bromochloromethane	4.60	2.30 U	2.30 UJ		ug/kg	I

Table of All Qualified Results

Test Method: SW8260 Extraction Method: SW5035

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW13-A-AUG2020	N	Bromodichloromethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Bromoform	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Bromomethane	9.10	4.60 U	4.60 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Carbon disulfide	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Carbon tetrachloride	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Chlorobenzene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Chloroethane	9.10	4.60 U	4.60 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Chloroform	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Chloromethane	9.10	4.60 U	4.60 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	cis-1,2-Dichloroethene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	cis-1,3-Dichloropropene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Cyclohexane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Dibromochloromethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Dichlorodifluoromethane	9.10	4.60 U	4.60 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Ethylbenzene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Isopropylbenzene (Cumene)	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	m,p-Xylene	9.10	4.60 U	4.60 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Methyl acetate	4.60	2.70 U	2.70 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Methyl tert-butyl ether (MTBE)	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Methylcyclohexane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	o-Xylene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Styrene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Tetrachloroethene (PCE)	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Toluene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	trans-1,2-Dichloroethene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	trans-1,3-Dichloropropene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Trichloroethene (TCE)	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Trichlorofluoromethane	9.10	4.60 U	4.60 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Vinyl chloride	9.10	4.60 U	4.60 UJ		ug/kg	I
NHFLA-MW13-A-AUG2020	N	Methylene chloride	23.0	15.0 J	23.0 UJ		ug/kg	L/I
NHFLA-MW13-B-AUG2020	N	1,1,1-Trichloroethane	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	1,1,2,2-Tetrachloroethane	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	1,1,2-Trichloroethane	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	1,1-Dichloroethane	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	1,1-Dichloroethene	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	1,2,3-Trichlorobenzene	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	1,2,4-Trichlorobenzene	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	1,2-Dibromo-3-chloropropane	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	1,2-Dibromoethane (EDB)	4.20	2.10 U	2.10 UJ		ug/kg	H1

Table of All Qualified Results

Test Method: SW8260 Extraction Method: SW5035

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW13-B-AUG2020	N	1,2-Dichlorobenzene	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	1,2-Dichloroethane	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	1,2-Dichloropropane	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	1,3-Dichlorobenzene	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	1,4-Dichlorobenzene	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	2-Butanone (MEK)	21.0	10.0 U	10.0 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	2-Hexanone	21.0	10.0 U	10.0 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	4-Methyl-2-pentanone (MIBK)	21.0	10.0 U	10.0 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Acetone	21.0	18.0 J	18.0 J	-	ug/kg	H1/TR
NHFLA-MW13-B-AUG2020	N	Benzene	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Bromochloromethane	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Bromodichloromethane	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Bromoform	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Bromomethane	8.40	4.20 U	4.20 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Carbon disulfide	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Carbon tetrachloride	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Chlorobenzene	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Chloroethane	8.40	4.20 U	4.20 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Chloroform	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Chloromethane	8.40	4.20 U	4.20 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	cis-1,2-Dichloroethene	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	cis-1,3-Dichloropropene	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Cyclohexane	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Dibromochloromethane	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Dichlorodifluoromethane	8.40	4.20 U	4.20 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Ethylbenzene	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Isopropylbenzene (Cumene)	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	m,p-Xylene	8.40	4.20 U	4.20 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Methyl acetate	4.20	2.50 U	2.50 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Methyl tert-butyl ether (MTBE)	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Methylcyclohexane	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	o-Xylene	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Styrene	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Tetrachloroethene (PCE)	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Toluene	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	trans-1,2-Dichloroethene	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	trans-1,3-Dichloropropene	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Trichloroethene (TCE)	4.20	2.10 U	2.10 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Trichlorofluoromethane	8.40	4.20 U	4.20 UJ		ug/kg	H1
NHFLA-MW13-B-AUG2020	N	Vinyl chloride	8.40	4.20 U	4.20 UJ		ug/kg	H1

Table of All Qualified Results

Test Method: SW8260	Extraction Method: SW5035							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW13-B-AUG2020	N	Methylene chloride	21.0	13.0 J	21.0 UJ		ug/kg	L/H1
NHFLA-MW13-C-AUG2020	N	Methylene chloride	21.0	11.0 J	21.0 U		ug/kg	L

Test Method: SW8270	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB8-AUG2020	EB	2,4,5-Trichlorophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB8-AUG2020	EB	2,4,6-Trichlorophenol	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB8-AUG2020	EB	2,4-Dichlorophenol	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB8-AUG2020	EB	2,4-Dimethylphenol	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB8-AUG2020	EB	2,4-Dinitrophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB8-AUG2020	EB	2-Chlorophenol	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB8-AUG2020	EB	2-Methylphenol (o-Cresol)	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB8-AUG2020	EB	2-Nitrophenol	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB8-AUG2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB8-AUG2020	EB	4-Chloro-3-methylphenol	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB8-AUG2020	EB	4-Nitrophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB8-AUG2020	EB	Cresols, m- & p-	9.70	7.30 U	7.30 UJ		ug/l	I
NHFLA-EB8-AUG2020	EB	Pentachlorophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB8-AUG2020	EB	Phenol	9.70	7.30 U	7.30 UJ		ug/l	I

Test Method: SW8270	Extraction Method: SW3550							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW13-A-AUG2020	N	Bis(2-ethylhexyl)phthalate	360	3000 BL	3000 J	+	ug/kg	L/C
NHFLA-MW13-B-AUG2020	N	Bis(2-ethylhexyl)phthalate	380	3700 BL	3700 J	+	ug/kg	L/C
NHFLA-MW13-C-AUG2020	N	Bis(2-ethylhexyl)phthalate	380	4800 BL	4800 J	+	ug/kg	L/C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method LYDKHN

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW13-A-AUG2020	N	Total Organic Carbon	880	22000	22000 J	22000	
NHFLA-MW13-B-AUG2020	N	Total Organic Carbon	940	15000	15000 J	15000	
NHFLA-MW13-C-AUG2020	N	Total Organic Carbon	880	17000	17000 J	17000	

Modified Qualifiers for test method SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB8-AUG2020	EB	Calcium	110	110	110	110 U	L

Modified Qualifiers for test method SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW13-A-AUG2020	N	Chromium, Hexavalent	0.540	0.320 U	0.320 X	0.320 U	
NHFLA-MW13-B-AUG2020	N	Chromium, Hexavalent	0.560	0.340 U	0.340 X	0.340 U	
NHFLA-MW13-C-AUG2020	N	Chromium, Hexavalent	0.580	0.350 U	0.350 X	0.350 U	

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW13-A-AUG2020	N	1,1,1-Trichloroethane	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	1,1,2,2-Tetrachloroethane	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	1,1,2-Trichloroethane	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	1,1-Dichloroethane	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	1,1-Dichloroethene	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	1,2,3-Trichlorobenzene	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	1,2,4-Trichlorobenzene	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	1,2-Dibromo-3-chloropropane	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	1,2-Dibromoethane (EDB)	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	1,2-Dichlorobenzene	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	1,2-Dichloroethane	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	1,2-Dichloropropane	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	1,3-Dichlorobenzene	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	1,4-Dichlorobenzene	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	2-Butanone (MEK)	23.0	11.0 U	11.0 UJ	11.0 UJ	I
NHFLA-MW13-A-AUG2020	N	2-Hexanone	23.0	11.0 U	11.0 UJ	11.0 UJ	I
NHFLA-MW13-A-AUG2020	N	4-Methyl-2-pentanone (MIBK)	23.0	11.0 U	11.0 UJ	11.0 UJ	I
NHFLA-MW13-A-AUG2020	N	Acetone	23.0	11.0 U	11.0 UJ	11.0 UJ	I
NHFLA-MW13-A-AUG2020	N	Benzene	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	Bromochloromethane	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	Bromodichloromethane	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	Bromoform	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	Bromomethane	9.10	4.60 U	4.60 UJ	4.60 UJ	I
NHFLA-MW13-A-AUG2020	N	Carbon disulfide	4.60	2.30 U	2.30 UJ	2.30 UJ	I

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW13-A-AUG2020	N	Carbon tetrachloride	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	Chlorobenzene	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	Chloroethane	9.10	4.60 U	4.60 UJ	4.60 UJ	I
NHFLA-MW13-A-AUG2020	N	Chloroform	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	Chloromethane	9.10	4.60 U	4.60 UJ	4.60 UJ	I
NHFLA-MW13-A-AUG2020	N	cis-1,2-Dichloroethene	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	cis-1,3-Dichloropropene	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	Cyclohexane	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	Dibromochloromethane	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	Dichlorodifluoromethane	9.10	4.60 U	4.60 UJ	4.60 UJ	I
NHFLA-MW13-A-AUG2020	N	Ethylbenzene	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	Isopropylbenzene (Cumene)	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	m,p-Xylene	9.10	4.60 U	4.60 UJ	4.60 UJ	I
NHFLA-MW13-A-AUG2020	N	Methyl acetate	4.60	2.70 U	2.70 UJ	2.70 UJ	I
NHFLA-MW13-A-AUG2020	N	Methyl tert-butyl ether (MTBE)	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	Methylcyclohexane	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	Methylene chloride	23.0	15.0 J	23.0 UJ	23.0 UJ	L/I
NHFLA-MW13-A-AUG2020	N	o-Xylene	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	Styrene	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	Tetrachloroethene (PCE)	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	Toluene	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	trans-1,2-Dichloroethene	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	trans-1,3-Dichloropropene	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	Trichloroethene (TCE)	4.60	2.30 U	2.30 UJ	2.30 UJ	I
NHFLA-MW13-A-AUG2020	N	Trichlorofluoromethane	9.10	4.60 U	4.60 UJ	4.60 UJ	I
NHFLA-MW13-A-AUG2020	N	Vinyl chloride	9.10	4.60 U	4.60 UJ	4.60 UJ	I
NHFLA-MW13-C-AUG2020	N	1,1,1-Trichloroethane	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	1,1,2,2-Tetrachloroethane	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	1,1,2-Trichloroethane	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	1,1-Dichloroethane	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	1,1-Dichloroethene	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	1,2,3-Trichlorobenzene	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	1,2,4-Trichlorobenzene	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	1,2-Dibromo-3-chloropropane	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	1,2-Dibromoethane (EDB)	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	1,2-Dichlorobenzene	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	1,2-Dichloroethane	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	1,2-Dichloropropane	4.10	2.10 U	2.10 UJ	2.10 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW13-C-AUG2020	N	1,3-Dichlorobenzene	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	1,4-Dichlorobenzene	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	2-Butanone (MEK)	21.0	9.70 J	9.70 J	9.70 J	TR
NHFLA-MW13-C-AUG2020	N	2-Hexanone	21.0	10.0 U	10.0 UJ	10.0 U	
NHFLA-MW13-C-AUG2020	N	4-Methyl-2-pentanone (MIBK)	21.0	10.0 U	10.0 UJ	10.0 U	
NHFLA-MW13-C-AUG2020	N	Acetone	21.0	49.0	49.0 J	49.0 J	
NHFLA-MW13-C-AUG2020	N	Benzene	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	Bromochloromethane	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	Bromodichloromethane	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	Bromoform	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	Bromomethane	8.30	4.10 U	4.10 UJ	4.10 U	
NHFLA-MW13-C-AUG2020	N	Carbon disulfide	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	Carbon tetrachloride	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	Chlorobenzene	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	Chloroethane	8.30	4.10 U	4.10 UJ	4.10 U	
NHFLA-MW13-C-AUG2020	N	Chloroform	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	Chloromethane	8.30	4.10 U	4.10 UJ	4.10 U	
NHFLA-MW13-C-AUG2020	N	cis-1,2-Dichloroethene	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	cis-1,3-Dichloropropene	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	Cyclohexane	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	Dibromochloromethane	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	Dichlorodifluoromethane	8.30	4.10 U	4.10 UJ	4.10 U	
NHFLA-MW13-C-AUG2020	N	Ethylbenzene	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	Isopropylbenzene (Cumene)	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	m,p-Xylene	8.30	4.10 U	4.10 UJ	4.10 U	
NHFLA-MW13-C-AUG2020	N	Methyl acetate	4.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW13-C-AUG2020	N	Methyl tert-butyl ether (MTBE)	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	Methylcyclohexane	4.10	1.30 J	1.30 J	1.30 J	TR
NHFLA-MW13-C-AUG2020	N	Methylene chloride	21.0	11.0 J	21.0 UJ	21.0 U	L
NHFLA-MW13-C-AUG2020	N	o-Xylene	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	Styrene	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	Tetrachloroethene (PCE)	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	Toluene	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	trans-1,2-Dichloroethene	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	trans-1,3-Dichloropropene	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	Trichloroethene (TCE)	4.10	2.10 U	2.10 UJ	2.10 U	
NHFLA-MW13-C-AUG2020	N	Trichlorofluoromethane	8.30	4.10 U	4.10 UJ	4.10 U	
NHFLA-MW13-C-AUG2020	N	Vinyl chloride	8.30	4.10 U	4.10 UJ	4.10 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB8-AUG2020	EB	1,2,4,5-Tetrachlorobenzene	9.70	7.30 U	7.30 UJ	7.30 U	
NHFLA-EB8-AUG2020	EB	1,4-Dioxane (p-Dioxane)	9.70	7.30 U	7.30 UJ	7.30 U	
NHFLA-EB8-AUG2020	EB	2,2'-Oxybis(1-chloropropane)	9.70	7.30 U	7.30 UJ	7.30 U	
NHFLA-EB8-AUG2020	EB	2,4-Dinitrotoluene	9.70	7.30 U	7.30 UJ	7.30 U	
NHFLA-EB8-AUG2020	EB	2,6-Dinitrotoluene	9.70	7.30 U	7.30 UJ	7.30 U	
NHFLA-EB8-AUG2020	EB	2-Chloronaphthalene	9.70	7.30 U	7.30 UJ	7.30 U	
NHFLA-EB8-AUG2020	EB	2-Nitroaniline	24.0	18.0 U	18.0 UJ	18.0 U	
NHFLA-EB8-AUG2020	EB	3,3'-Dichlorobenzidine	9.70	7.30 U	7.30 UJ	7.30 U	
NHFLA-EB8-AUG2020	EB	3-Nitroaniline	24.0	18.0 U	18.0 UJ	18.0 U	
NHFLA-EB8-AUG2020	EB	4-Bromophenyl phenyl ether	9.70	7.30 U	7.30 UJ	7.30 U	
NHFLA-EB8-AUG2020	EB	4-Chloroaniline	9.70	7.30 U	7.30 UJ	7.30 U	
NHFLA-EB8-AUG2020	EB	4-Chlorophenyl phenyl ether	9.70	7.30 U	7.30 UJ	7.30 U	
NHFLA-EB8-AUG2020	EB	4-Nitroaniline	24.0	18.0 U	18.0 UJ	18.0 U	
NHFLA-EB8-AUG2020	EB	Acetophenone	9.70	7.30 U	7.30 UJ	7.30 U	
NHFLA-EB8-AUG2020	EB	Atrazine	9.70	7.30 U	7.30 UJ	7.30 U	
NHFLA-EB8-AUG2020	EB	Benzaldehyde	9.70	7.30 UL	7.30 UJ	7.30 U	
NHFLA-EB8-AUG2020	EB	Benzyl butyl phthalate	9.70	7.30 U	7.30 UJ	7.30 U	
NHFLA-EB8-AUG2020	EB	Biphenyl (Diphenyl)	9.70	7.30 U	7.30 UJ	7.30 U	
NHFLA-EB8-AUG2020	EB	Bis(2-chloroethoxy)methane	9.70	7.30 U	7.30 UJ	7.30 U	
NHFLA-EB8-AUG2020	EB	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.70	7.30 U	7.30 UJ	7.30 U	
NHFLA-EB8-AUG2020	EB	Bis(2-ethylhexyl)phthalate	9.70	7.30 U	7.30 UJ	7.30 U	
NHFLA-EB8-AUG2020	EB	Caprolactam	9.70	7.30 U	7.30 UJ	7.30 U	
NHFLA-EB8-AUG2020	EB	Carbazole	9.70	7.30 U	7.30 UJ	7.30 U	
NHFLA-EB8-AUG2020	EB	Dibenzofuran	9.70	7.30 U	7.30 UJ	7.30 U	
NHFLA-EB8-AUG2020	EB	Diethyl phthalate	9.70	4.20 J	4.20 J	4.20 J	TR
NHFLA-EB8-AUG2020	EB	Dimethyl phthalate	9.70	7.30 U	7.30 UJ	7.30 U	
NHFLA-EB8-AUG2020	EB	Di-n-butyl phthalate	9.70	7.30 U	7.30 UJ	7.30 U	
NHFLA-EB8-AUG2020	EB	di-n-Octyl phthalate	9.70	7.30 U	7.30 UJ	7.30 U	
NHFLA-EB8-AUG2020	EB	Hexachlorobenzene	9.70	7.30 U	7.30 UJ	7.30 U	
NHFLA-EB8-AUG2020	EB	Hexachlorobutadiene	9.70	7.30 U	7.30 UJ	7.30 U	
NHFLA-EB8-AUG2020	EB	Hexachlorocyclopentadiene	9.70	7.30 U	7.30 UJ	7.30 U	
NHFLA-EB8-AUG2020	EB	Hexachloroethane	9.70	7.30 U	7.30 UJ	7.30 U	
NHFLA-EB8-AUG2020	EB	Isophorone	9.70	7.30 U	7.30 UJ	7.30 U	
NHFLA-EB8-AUG2020	EB	Nitrobenzene	9.70	7.30 U	7.30 UJ	7.30 U	
NHFLA-EB8-AUG2020	EB	N-Nitrosodi-n-propylamine	9.70	7.30 U	7.30 UJ	7.30 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB8-AUG2020	EB	N-Nitrosodiphenylamine	9.70	7.30 U	7.30 UJ	7.30 U	

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Rejected Results

--No Records Found--

Automated Data Review Detail Report for SN7239
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
SW6010/SW3050/NONE	3	22
SW7196/SW3060/NONE	3	3
SW8270/SW3550/NONE	3	90

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-MW13-A-AUG2020	N	5	Antimony	2.00 U	0.280	2.00	3.20	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW13-A-AUG2020	N	5	Arsenic	8.71	0.280	2.00	3.20	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW13-A-AUG2020	N	5	Cadmium	0.200 J	0.0320	1.20	2.00	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW13-A-AUG2020	N	5	Cobalt	5.40	0.120	1.60	4.10	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW13-A-AUG2020	N	5	Copper	30.3	0.650	4.10	10.0	9.333333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW13-A-AUG2020	N	5	Selenium	2.80 U	0.690	2.80	4.10	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW13-A-AUG2020	N	5	Silver	0.400 J	0.110	1.60	4.10	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW13-A-AUG2020	N	5	Thallium	2.00 U	0.350	2.00	6.10	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW13-A-AUG2020	N	5	Vanadium	18.8	0.150	1.60	4.10	2.6	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW13-B-AUG2020	N	2	Antimony	0.370 J	0.130	0.960	1.50	0.09	mg/Kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-MW13-B-AUG2020	N	1	Arsenic	10.3	0.0650	0.480	0.770	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW13-B-AUG2020	N	1	Cadmium	0.332 J	0.00760	0.290	0.480	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW13-B-AUG2020	N	1	Cobalt	8.59	0.0280	0.380	0.960	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW13-B-AUG2020	N	1	Selenium	1.20	0.160	0.670	0.960	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW13-B-AUG2020	N	1	Thallium	0.360 J	0.0820	0.480	1.40	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW13-C-AUG2020	N	2	Antimony	0.480 J	0.120	0.850	1.40	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW13-C-AUG2020	N	2	Arsenic	14.6	0.120	0.850	1.40	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW13-C-AUG2020	N	2	Cadmium	0.510 U	0.0130	0.510	0.850	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW13-C-AUG2020	N	2	Cobalt	6.68	0.0500	0.680	1.70	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW13-C-AUG2020	N	2	Selenium	1.60 J	0.290	1.20	1.70	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW13-C-AUG2020	N	2	Silver	0.465 J	0.0460	0.680	1.70	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW13-C-AUG2020	N	2	Thallium	0.790 J	0.150	0.850	2.60	0.016666	mg/Kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7196/SW3060/NONE	NHFLA-MW13-A-AUG2020	N	1.2	Chromium, Hexavalent	0.320 U	0.160	0.320	0.540	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-MW13-B-AUG2020	N	1.2	Chromium, Hexavalent	0.340 U	0.170	0.340	0.560	0.4	mg/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7196/SW3060/NONE	NHFLA-MW13-C-AUG2020	N	1.2	Chromium, Hexavalent	0.350 U	0.170	0.350	0.580	0.4	mg/kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW13-A-AUG2020	N	1	1,2,4,5-Tetrachlorobenzene	270 U	140	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-A-AUG2020	N	1	2,4-Dichlorophenol	270 U	160	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-A-AUG2020	N	1	2,4-Dimethylphenol	270 U	180	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-A-AUG2020	N	1	2,4-Dinitrophenol	660 U	400	660	880	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-A-AUG2020	N	1	2,6-Dinitrotoluene	270 U	85.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-A-AUG2020	N	1	2-Chlorophenol	270 U	180	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-A-AUG2020	N	1	2-Methylphenol (o-Cresol)	270 U	220	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-A-AUG2020	N	1	2-Nitroaniline	660 U	81.0	660	880	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-A-AUG2020	N	1	3,3'-Dichlorobenzidine	270 U	120	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-A-AUG2020	N	1	4,6-Dinitro-2-methylphenol	660 U	360	660	880	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-A-AUG2020	N	1	4-Chloroaniline	270 U	130	270	360	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-A-AUG2020	N	1	Atrazine	270 U	98.0	270	360	330	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW13-A-AUG2020	N	1	Benzyl butyl phthalate	270 U	100	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-A-AUG2020	N	1	Biphenyl (Diphenyl)	270 U	78.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-A-AUG2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	270 U	87.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-A-AUG2020	N	1	bis(2-Ethylhexyl) phthalate	3000 J	100	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-A-AUG2020	N	1	Carbazole	270 U	120	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-A-AUG2020	N	1	Dibenzofuran	270 U	85.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-A-AUG2020	N	1	Diethyl phthalate	270 U	86.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-A-AUG2020	N	1	Dimethyl phthalate	270 U	84.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-A-AUG2020	N	1	Di-n-butyl phthalate	270 U	110	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-A-AUG2020	N	1	Di-n-octyl phthalate	270 U	230	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-A-AUG2020	N	1	Hexachlorobenzene	270 U	88.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-A-AUG2020	N	1	Hexachlorobutadiene	270 U	89.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-A-AUG2020	N	1	Hexachlorocyclopentadiene	270 U	88.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-A-AUG2020	N	1	Hexachloroethane	270 U	100	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-A-AUG2020	N	1	n-Nitrosodi-n-propylamine	270 U	89.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-A-AUG2020	N	1	n-Nitrosodiphenylamine	270 U	240	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-A-AUG2020	N	1	Pentachlorophenol	660 U	260	660	880	820	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW13-A-AUG2020	N	1	Phenol	270 U	170	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-B-AUG2020	N	1	1,2,4,5-Tetrachlorobenzene	280 U	160	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-B-AUG2020	N	1	2,4-Dichlorophenol	280 U	170	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-B-AUG2020	N	1	2,4-Dimethylphenol	280 U	190	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-B-AUG2020	N	1	2,4-Dinitrophenol	710 U	430	710	940	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-B-AUG2020	N	1	2,6-Dinitrotoluene	280 U	91.0	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-B-AUG2020	N	1	2-Chlorophenol	280 U	190	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-B-AUG2020	N	1	2-Methylphenol (o-Cresol)	280 U	230	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-B-AUG2020	N	1	2-Nitroaniline	710 U	86.0	710	940	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-B-AUG2020	N	1	3,3'-Dichlorobenzidine	280 U	130	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-B-AUG2020	N	1	4,6-Dinitro-2-methylphenol	710 U	390	710	940	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-B-AUG2020	N	1	4-Chloroaniline	280 U	140	280	380	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-B-AUG2020	N	1	Atrazine	280 U	100	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-B-AUG2020	N	1	Benzyl butyl phthalate	280 U	110	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-B-AUG2020	N	1	Biphenyl (Diphenyl)	280 U	84.0	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-B-AUG2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	280 U	93.0	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-B-AUG2020	N	1	bis(2-Ethylhexyl) phthalate	3700 J	110	280	380	330	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW13-B-AUG2020	N	1	Carbazole	280 U	130	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-B-AUG2020	N	1	Dibenzofuran	280 U	91.0	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-B-AUG2020	N	1	Diethyl phthalate	280 U	92.0	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-B-AUG2020	N	1	Dimethyl phthalate	280 U	90.0	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-B-AUG2020	N	1	Di-n-butyl phthalate	280 U	120	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-B-AUG2020	N	1	Di-n-octyl phthalate	280 U	240	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-B-AUG2020	N	1	Hexachlorobenzene	280 U	94.0	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-B-AUG2020	N	1	Hexachlorobutadiene	280 U	96.0	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-B-AUG2020	N	1	Hexachlorocyclopentadiene	280 U	94.0	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-B-AUG2020	N	1	Hexachloroethane	280 U	110	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-B-AUG2020	N	1	n-Nitrosodi-n-propylamine	280 U	96.0	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-B-AUG2020	N	1	n-Nitrosodiphenylamine	280 U	250	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-B-AUG2020	N	1	Pentachlorophenol	710 U	270	710	940	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-B-AUG2020	N	1	Phenol	280 U	180	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-C-AUG2020	N	1	1,2,4,5-Tetrachlorobenzene	290 U	160	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-C-AUG2020	N	1	2,4-Dichlorophenol	290 U	170	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-C-AUG2020	N	1	2,4-Dimethylphenol	290 U	190	290	380	330	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW13-C-AUG2020	N	1	2,4-Dinitrophenol	710 U	440	710	950	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-C-AUG2020	N	1	2,6-Dinitrotoluene	290 U	91.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-C-AUG2020	N	1	2-Chlorophenol	290 U	190	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-C-AUG2020	N	1	2-Methylphenol (o-Cresol)	290 U	230	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-C-AUG2020	N	1	2-Nitroaniline	710 U	87.0	710	950	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-C-AUG2020	N	1	3,3'-Dichlorobenzidine	290 U	130	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-C-AUG2020	N	1	4,6-Dinitro-2-methylphenol	710 U	390	710	950	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-C-AUG2020	N	1	4-Chloroaniline	290 U	140	290	380	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-C-AUG2020	N	1	Atrazine	290 U	100	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-C-AUG2020	N	1	Benzyl butyl phthalate	290 U	110	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-C-AUG2020	N	1	Biphenyl (Diphenyl)	290 U	84.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-C-AUG2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	290 U	94.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-C-AUG2020	N	1	bis(2-Ethylhexyl) phthalate	4800 J	110	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-C-AUG2020	N	1	Carbazole	290 U	130	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-C-AUG2020	N	1	Dibenzofuran	290 U	91.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-C-AUG2020	N	1	Diethyl phthalate	290 U	92.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-C-AUG2020	N	1	Dimethyl phthalate	290 U	90.0	290	380	330	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW13-C-AUG2020	N	1	Di-n-butyl phthalate	290 U	120	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-C-AUG2020	N	1	Di-n-octyl phthalate	290 U	240	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-C-AUG2020	N	1	Hexachlorobenzene	290 U	95.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-C-AUG2020	N	1	Hexachlorobutadiene	290 U	96.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-C-AUG2020	N	1	Hexachlorocyclopentadiene	290 U	95.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-C-AUG2020	N	1	Hexachloroethane	290 U	110	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-C-AUG2020	N	1	n-Nitrosodi-n-propylamine	290 U	96.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-C-AUG2020	N	1	n-Nitrosodiphenylamine	290 U	250	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-C-AUG2020	N	1	Pentachlorophenol	710 U	270	710	950	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW13-C-AUG2020	N	1	Phenol	290 U	180	290	380	330	ug/kg

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Reason Code Definitions

Code	Definition
C	LCS Recovery
H1	Test Hold Time
H2	Prep Hold Time
I	Surrogate recovery outside project limits.
L	Lab Blank
TR	Trace Level Detect
V	Equipment Blank

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: BNASIM (GC/MS-SIM Analysis by SW8270)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Internal standard and calibration outlier issues noted in case narrative were not addressed as part of this stage 2A validation review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data rejected during the verification process?		•		

Review Questions

Method: LYDKHN (Lloyd Kahn Method for the Determination of Total Organic Carbon in Sediment, USEPA Region II Method)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			Removed H2 qualifiers for samples -001, -002, -003. Test performed in 7 days versus 14 day recommended hold time.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW6010 (Trace Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch PBSNI01HCS1 detections for aluminum, barium, calcium, chromium, magnesium, potassium, sodium and zinc. Qualifications were not required based on these soil prep batch method blank detections.
Were target analytes in the field blank less than MDL?		•		Equipment blank detections were not used to qualify soil field sample detections.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			lcs only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW6020 (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch PBWNH31IMW2 prep blank had detections below the LOQ for aluminum, barium, beryllium, calcium, chromium, copper, lead, magnesium, manganese, potassium, sodium. Client sample -004 results for the following metals were qualified as non-detect at either the LOD or LOQ with U flag and L reason code: barium, beryllium, chromium, magnesium, manganese, potassium, sodium. Client sample -004 calcium result was qualified as non-detect at the amount reported in the sample (110ug/l adjusted LOQ) and qualified with a U flag and L reason code.
Were target analytes in the field blank less than MDL?		•		Sample -004 was the equipment blank.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7196 (Chromium, Hexavalent (Colorimetric))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			H1 reason codes were removed for soil samples since holding times were within project criteria.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG285231 had a detection below the LOQ. Field sample -004 result was qualified as non-detect with a U flag and L reason code.
Were target analytes in the field blank less than MDL?		•		Equipment blank detection was qualified as noted above as non-detect at the LOQ due to method blank detection.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		Only 1 MS was reported in the batch QC. Method requires spiking for soluble and insoluble MS.
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7470 (Mercury in Liquid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7471 (Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW8260 (Volatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?		•		Following samples were analyzed outside of testing hold time and results were qualified with UJ/H1 flags/codes if non-detect and J/H1 flag/codes if detected: --002RA2. Note: sample -001RA and -003RA H1 flags were removed since they were analyzed on the 14th day of a 14 day holding time.
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		1 of 4 surrogates biased low in client sample -001RA. All results qualified as estimated with I reason code.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG285867-2, WG286120-2 and WG285324-2 method blanks had detections below the LOQ for methylene chloride. Client samples -001RA, -003RA, -002RA2, -004 methylene chloride results were qualified as non-detect at the LOD or LOQ and qualified with U flags and L reason codes.
Were target analytes in the field blank less than MDL?		•		Trip blank was non-detect but equipment blank methylene chloride detection was qualified as non-detect at the LOD due to method blank detection noted above.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Internal standard and calibration outlier issues noted in case narrative were not addressed as part of this stage 2A validation review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data rejected during the verification process?		•		

Review Questions

Method: SW8270 (Semivolatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Samples -004 and -004RE had 1 of 3 acid fraction surrogates biased low so all acid fraction analytes were qualified as estimated with UJ/I flags/reason codes. Base-neutral flags were removed from data base for both samples since all BN surrogate recoveries were acceptable.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batches WG285330-1 and WG28454-1 haddetections above the LOQ for bis-2-ethylhexylphthalate. Client samples -001, -002,-003, -004RE results for this analyte were qualified as estimated with J+.
Were target analytes in the field blank less than MDL?		•		Diethyl phthalate was detected in equipment blank.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batches WG285387-2 and WG285454-2 had high bias recoveries for benzaldehyde. Qualification was not required based on this high bias outlier. QC batch WG285330-2 has a high bias for 3,3-dichlorobenzidine and bis-2-ethylhexylphthalate. Client samples -001, -002 and -003 results for this analyte were qualified with C reason code but flagged non-detect at LOQ due to method blank detection noted above.
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		ICV and calibration outlier issues noted in case narrative were not addressed as part of this stage 2A validation review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data rejected during the verification process?		•		

Review Questions

Method: SW9045 (Soil pH)

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?		•		
Were target analytes in the method blank less than MDL?			•	
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			lcs only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	SN7314
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Katahdin Analytical Services, Westbrook, ME
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	January 08, 2021-Revision date April 6, 2021 See page 3 for revision summary.

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	BNASIM	LYDKHN	SW6010	SW6020	SW7196	SW7470	SW7471	SW8260	SW8270	SW9045
NHFLA-DUP3-AUG2020	SN7314-3	Solid	Field Duplicate/FD	X	X	X		X		X	X	X	X
NHFLA-DUP4-AUG2020	SN7314-4	Solid	Field Duplicate/FD	X	X	X		X		X	X	X	
NHFLA-MW3-A-AUG2020	SN7314-1	Solid	Field Sample/N	X	X	X		X		X	X	X	X
NHFLA-MW3-B-AUG2020	SN7314-2	Solid	Field Sample/N	X	X	X		X		X	X	X	
NHFLA-EB9-AUG2020	SN7314-5	Water	Equipment Blank/EB	X			X	X	X		X	X	
NHFLA-TB10-AUG2020	SN7314-6	Water	Trip Blank/TB								X		
NHFLA-TB11-AUG2020	SN7314-7	Water	Trip Blank/TB								X		

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Katahdin Analytical Services, Westbrook, ME and were reported under sample delivery group (SDG) SN7314. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Extracted Internal Standard
- Field Duplicate RPD
- Lab Blank
- Lab Replicate RPD
- LCS Recovery
- LCS RPD
- MS Recovery
- MS RPD
- Prep Hold Time
- Surrogate
- Test Hold Time
- Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 226 results (27.63%) out of the 818 results (sample and field QC samples) reported are qualified based on review and 0 results (0.00%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

REVISION SUMMARY - Narrative Comments

REVISION SUMMARY: Database field duplicate linked samples issues for associations -001/-003 and -002/-004 have been corrected in database and flagging and DVR revised accordingly. Flagging changes as follows: Samples -001 and -003 J/D3 flag reason code removed for beryllium and added for calcium.

Analytical Method	Data Reviewer Comment
BNASIM	No additional comments; see Checklist for detail.
LYDKHN	No additional comments; see Checklist for detail.
SW6010	No additional comments; see Checklist for detail.
SW6020	No additional comments; see Checklist for detail.
SW7196	No additional comments; see Checklist for detail.
SW7470	No additional comments; see Checklist for detail.
SW7471	No additional comments; see Checklist for detail.
SW8260	No additional comments; see Checklist for detail.
SW8270	No additional comments; see Checklist for detail.
SW9045	No additional comments; see Checklist for detail.

Jim Tomalia

April 6, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method BNASIM, Field Duplicate RPD

Field duplicate analyses are performed in order to assess sample collection/laboratory precision for each sample matrix. Summary forms were evaluated and compared to electronic data deliverables. Field duplicate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW3-B-AUG2020 (N)/ SN7314-3	Indeno(1,2,3-c,d)pyrene	100.0	< 50	< 50	rpd	J/UJ	D3	
NHFLA-MW3-B-AUG2020 (N)/ SN7314-3	Benzo (g,h,i)perylene	114.3	< 50	< 50	rpd	J/UJ	D3	
NHFLA-MW3-B-AUG2020 (N)/ SN7314-3	Phenanthrene	59.26	< 50	< 50	rpd	J/UJ	D3	
NHFLA-MW3-B-AUG2020 (N)/ SN7314-3	Fluoranthene	80.00	< 50	< 50	rpd	J/UJ	D3	
NHFLA-MW3-B-AUG2020 (N)/ SN7314-3	Dibenz (a,h)anthracene	83.00	< 19	< 19	ug/kg	J/UJ	D3	
NHFLA-MW3-B-AUG2020 (N)/ SN7314-3	Benzo (a)anthracene	85.00	< 50	< 50	rpd	J/UJ	D3	
NHFLA-MW3-B-AUG2020 (N)/ SN7314-3	Pyrene	85.71	< 50	< 50	rpd	J/UJ	D3	
NHFLA-MW3-B-AUG2020 (N)/ SN7314-3	Benzo (k)fluoranthene	87.18	< 50	< 50	rpd	J/UJ	D3	
NHFLA-MW3-B-AUG2020 (N)/ SN7314-3	Benzo (b)fluoranthene	88.00	< 50	< 50	rpd	J/UJ	D3	
NHFLA-MW3-B-AUG2020 (N)/ SN7314-3	Chrysene	90.11	< 50	< 50	rpd	J/UJ	D3	
NHFLA-MW3-B-AUG2020 (N)/ SN7314-3	Benzo(a)pyrene	96.91	< 50	< 50	rpd	J/UJ	D3	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method BNASIM, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285464-1 (LB)/ WG285464-1	Chrysene	1.800	< 1.7	< 20	ug/kg	U/None	L	
WG285464-1 (LB)/ WG285464-1	Phenanthrene	1.800	< 1.8	< 20	ug/kg	U/None	L	
WG285464-1 (LB)/ WG285464-1	Pyrene	2.300	< 2.1	< 20	ug/kg	U/None	L	
WG285464-1 (LB)/ WG285464-1	Fluoranthene	2.500	< 1.8	< 20	ug/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method BNASIM, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285452-2 (BS)/ WG285452-2	Dibenz (a,h)anthracene	40.90	44 - 131	10 - 131	percent	J/UJ	C	
WG285452-2 (BS)/ WG285452-2	Indeno(1,2,3-c,d)pyrene	45.40	48 - 130	10 - 130	percent	J/UJ	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB9-AUG2020	EB	Dibenz(a,h)anthracene	0.190	0.0960 UL	0.0960 UJ		ug/l	C
NHFLA-EB9-AUG2020	EB	Indeno(1,2,3-c,d)pyrene	0.190	0.0960 UL	0.0960 UJ		ug/l	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method BNASIM, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS3-AUG2020 (MS)/ WG285464-4	Anthracene	125.4	50 - 114	10 - 114	percent	J/None	M	
NHFLA-MS3-AUG2020 (MS)/ WG285464-4	Benzo (k)fluoranthene	145.2	56 - 123	10 - 123	percent	J/None	M	
NHFLA-MS3-AUG2020 (MS)/ WG285464-4	Dibenz (a,h)anthracene	146.0	50 - 129	10 - 129	percent	J/None	M	
NHFLA-MS3-AUG2020 (MS)/ WG285464-4	Fluoranthene	1667	55 - 119	10 - 119	percent	J/None	M	Spike amount Insignificant
NHFLA-MS3-AUG2020 (MS)/ WG285464-4	Pyrene	1750	55 - 117	10 - 117	percent	J/None	M	Spike amount Insignificant
NHFLA-MS3-AUG2020 (MS)/ WG285464-4	Chrysene	227.3	57 - 118	10 - 118	percent	J/None	M	Spike amount Insignificant
NHFLA-MS3-AUG2020 (MS)/ WG285464-4	Benzo (b)fluoranthene	2500	53 - 128	10 - 128	percent	J/None	M	Spike amount Insignificant
NHFLA-MS3-AUG2020 (MS)/ WG285464-4	Benzo(a)pyrene	318.2	50 - 125	10 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-MS3-AUG2020 (MS)/ WG285464-4	Benzo (a)anthracene	363.6	54 - 122	10 - 122	percent	J/None	M	Spike amount Insignificant
NHFLA-MS3-AUG2020 (MS)/ WG285464-4	Phenanthrene	761.9	49 - 113	10 - 113	percent	J/None	M	Spike amount Insignificant
NHFLA-MSD3-AUG2020 (SD)/ WG285464-5	Indeno(1,2,3-c,d)pyrene	-130.7	49 - 130	10 - 130	percent	J/X	M	
NHFLA-MSD3-AUG2020 (SD)/ WG285464-5	Benzo (k)fluoranthene	165.6	56 - 123	10 - 123	percent	J/None	M	
NHFLA-MSD3-AUG2020 (SD)/ WG285464-5	Fluoranthene	1731	55 - 119	10 - 119	percent	J/None	M	Spike amount Insignificant
NHFLA-MSD3-AUG2020 (SD)/ WG285464-5	Benzo (g,h,i)perylene	182.1	49 - 127	10 - 127	percent	J/None	M	
NHFLA-MSD3-AUG2020 (SD)/ WG285464-5	Pyrene	2692	55 - 117	10 - 117	percent	J/None	M	Spike amount Insignificant
NHFLA-MSD3-AUG2020 (SD)/ WG285464-5	Phenanthrene	297.0	49 - 113	10 - 113	percent	J/None	M	Spike amount Insignificant
NHFLA-MSD3-AUG2020 (SD)/ WG285464-5	Benzo (b)fluoranthene	47500	53 - 128	10 - 128	percent	J/None	M	Spike amount Insignificant
NHFLA-MSD3-AUG2020 (SD)/ WG285464-5	Chrysene	637.3	57 - 118	10 - 118	percent	J/None	M	Spike amount Insignificant
NHFLA-MSD3-AUG2020 (SD)/ WG285464-5	Benzo(a)pyrene	735.3	50 - 125	10 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-MSD3-AUG2020 (SD)/ WG285464-5	Benzo (a)anthracene	833.3	54 - 122	10 - 122	percent	J/None	M	Spike amount Insignificant

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP4-AUG2020	FD	Anthracene	20.0	22.0 M	22.0 J	+	ug/kg	M/D

Qualified Results associated with the MS Recovery for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP4-AUG2020	FD	Benzo(a)anthracene	20.0	180 MM	180 J		ug/kg	D/M
NHFLA-DUP4-AUG2020	FD	Benzo(a)pyrene	20.0	200 MM	200 J		ug/kg	D/M
NHFLA-DUP4-AUG2020	FD	Benzo(b)fluoranthene	20.0	280 MM	280 J		ug/kg	D/M
NHFLA-DUP4-AUG2020	FD	Benzo(k)fluoranthene	20.0	100 MM	100 J	+	ug/kg	M
NHFLA-DUP4-AUG2020	FD	Chrysene	20.0	200 MM	200 J		ug/kg	D/M
NHFLA-DUP4-AUG2020	FD	Dibenz(a,h)anthracene	20.0	25.0 M	25.0 J	+	ug/kg	M/D
NHFLA-DUP4-AUG2020	FD	Fluoranthene	20.0	330 MM	330 J		ug/kg	M
NHFLA-DUP4-AUG2020	FD	Pyrene	20.0	380 MM	380 J		ug/kg	M
NHFLA-DUP4-AUG2020	FD	Benzo(g,h,i)perylene	20.0	140 M	140 J	+	ug/kg	M/D
NHFLA-DUP4-AUG2020	FD	Indeno(1,2,3-c,d)pyrene	20.0	140 M	140 J	-	ug/kg	M/D
NHFLA-DUP4-AUG2020	FD	Phenanthrene	20.0	160 MM	160 J		ug/kg	D/M
NHFLA-MW3-B-AUG2020	N	Anthracene	19.0	31.0	31.0 J	+	ug/kg	M/D
NHFLA-MW3-B-AUG2020	N	Benzo(a)anthracene	19.0	230	230 J		ug/kg	D/M
NHFLA-MW3-B-AUG2020	N	Benzo(a)pyrene	19.0	250	250 J		ug/kg	D/M
NHFLA-MW3-B-AUG2020	N	Benzo(b)fluoranthene	19.0	350	350 J		ug/kg	D/M
NHFLA-MW3-B-AUG2020	N	Benzo(k)fluoranthene	19.0	110	110 J	+	ug/kg	M
NHFLA-MW3-B-AUG2020	N	Chrysene	19.0	250	250 J		ug/kg	D/M
NHFLA-MW3-B-AUG2020	N	Dibenz(a,h)anthracene	19.0	47.0	47.0 J	+	ug/kg	M/D
NHFLA-MW3-B-AUG2020	N	Fluoranthene	19.0	390	390 J		ug/kg	M
NHFLA-MW3-B-AUG2020	N	Pyrene	19.0	440	440 J		ug/kg	M
NHFLA-MW3-B-AUG2020	N	Benzo(g,h,i)perylene	19.0	150	150 J	+	ug/kg	M/D
NHFLA-MW3-B-AUG2020	N	Indeno(1,2,3-c,d)pyrene	19.0	140	140 J	-	ug/kg	M/D
NHFLA-MW3-B-AUG2020	N	Phenanthrene	19.0	190	190 J		ug/kg	D/M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method BNASIM, MS RPD

The objective of matrix spikes/matrix spike duplicates (MS/MSD) RPD analysis is to demonstrate acceptable method precision by the laboratory at the time of analysis. MS/MSD analyses are also performed to generate data that determines the long-term precision of the analytical method on various matrices. Non-homogenous samples can impact the apparent method precision. Summary forms were evaluated and compared to electronic data deliverables. Matrix spikes/matrix spike duplicates results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS3-AUG2020 (SD)/ WG285464-5	Indeno(1,2,3-c,d)pyrene	152.0	< 22	< 22	ug/kg	J/UJ	D	
NHFLA-MS3-AUG2020 (SD)/ WG285464-5	Benzo (g,h,i)perylene	21.28	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS3-AUG2020 (SD)/ WG285464-5	Benzo(a)pyrene	22.22	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS3-AUG2020 (SD)/ WG285464-5	Chrysene	23.53	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS3-AUG2020 (SD)/ WG285464-5	Benzo (a)anthracene	25.35	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS3-AUG2020 (SD)/ WG285464-5	Benzo (b)fluoranthene	29.79	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS3-AUG2020 (SD)/ WG285464-5	Phenanthrene	48.78	< 20	< 20	rpd	J/UJ	D	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS RPD for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP4-AUG2020	FD	Benzo(a)anthracene	20.0	180 MM	180 J		ug/kg	D/M
NHFLA-DUP4-AUG2020	FD	Benzo(a)pyrene	20.0	200 MM	200 J		ug/kg	D/M
NHFLA-DUP4-AUG2020	FD	Benzo(b)fluoranthene	20.0	280 MM	280 J		ug/kg	D/M
NHFLA-DUP4-AUG2020	FD	Benzo(g,h,i)perylene	20.0	140 M	140 J	+	ug/kg	M/D
NHFLA-DUP4-AUG2020	FD	Chrysene	20.0	200 MM	200 J		ug/kg	D/M
NHFLA-DUP4-AUG2020	FD	Indeno(1,2,3-c,d)pyrene	20.0	140 M	140 J	-	ug/kg	M/D
NHFLA-DUP4-AUG2020	FD	Phenanthrene	20.0	160 MM	160 J		ug/kg	D/M
NHFLA-MW3-B-AUG2020	N	Benzo(a)anthracene	19.0	230	230 J		ug/kg	D/M
NHFLA-MW3-B-AUG2020	N	Benzo(a)pyrene	19.0	250	250 J		ug/kg	D/M
NHFLA-MW3-B-AUG2020	N	Benzo(b)fluoranthene	19.0	350	350 J		ug/kg	D/M
NHFLA-MW3-B-AUG2020	N	Benzo(g,h,i)perylene	19.0	150	150 J	+	ug/kg	M/D
NHFLA-MW3-B-AUG2020	N	Chrysene	19.0	250	250 J		ug/kg	D/M
NHFLA-MW3-B-AUG2020	N	Indeno(1,2,3-c,d)pyrene	19.0	140	140 J	-	ug/kg	M/D
NHFLA-MW3-B-AUG2020	N	Phenanthrene	19.0	190	190 J		ug/kg	D/M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method LYDKHN, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS3-AUG2020 (MS)/ WG285821-4	Total Organic Carbon	-40.40	75 - 125	30 - 150	percent	J/X	M	Spike amount Insignificant
NHFLA-MSD3-AUG2020 (SD)/ WG285821-5	Total Organic Carbon	11.78	75 - 125	30 - 150	percent	J/X	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for LYDKHN

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP4-AUG2020	FD	Total Organic Carbon	950	18000	18000 J	-	ug/g	M
NHFLA-MW3-B-AUG2020	N	Total Organic Carbon	680	23000	23000 J	-	ug/g	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method LYDKHN, Prep Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of extraction found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-DUP3-AUG2020 (FD)/ SN7314-3		10.17	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-DUP4-AUG2020 (FD)/ SN7314-4		7.960	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW3-A-AUG2020 (N)/ SN7314-1		7.980	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW3-B-AUG2020 (N)/ SN7314-2		7.960	< 0	< 0	days	J/X	H2	Prep Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6010, Field Duplicate RPD

Field duplicate analyses are performed in order to assess sample collection/laboratory precision for each sample matrix. Summary forms were evaluated and compared to electronic data deliverables. Field duplicate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW3-B-AUG2020 (N)/ SN7314-3	Lead	68.74	< 50	< 50	rpd	J/UJ	D3	
NHFLA-MW3-B-AUG2020 (N)/ SN7314-4	Calcium	62.62	< 50	< 50	rpd	J/UJ	D3	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Field Duplicate RPD for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP3-AUG2020	FD	Calcium	22.0	62600	62600 J		mg/kg	D3
NHFLA-DUP4-AUG2020	FD	Calcium	9.60	29400 NEA	29400 J		mg/kg	D3
NHFLA-MW3-A-AUG2020	N	Calcium	49.0	196000	196000 J		mg/kg	D3
NHFLA-MW3-B-AUG2020	N	Calcium	17.0	56200	56200 J		mg/kg	D3

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6010, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBSNI02ICS1 (LB)/ PBSNI02ICS1	Nickel	0.04500	< 0.044	< 1	mg/kg	U/None	L	
PBSNI02ICS1 (LB)/ PBSNI02ICS1	Chromium	0.05800	< 0.026	< 1	mg/kg	U/None	L	
PBSNI02ICS1 (LB)/ PBSNI02ICS1	Magnesium	1.600	< 0.68	< 10	mg/kg	U/None	L	
PBSNI02ICS1 (LB)/ PBSNI02ICS1	Aluminum	1.800	< 0.71	< 30	mg/kg	U/None	L	
PBSNI02ICS1 (LB)/ PBSNI02ICS1	Sodium	3.300	< 1.5	< 100	mg/kg	U/None	L	
PBSNI02ICS1 (LB)/ PBSNI02ICS1	Calcium	5.000	< 1.8	< 10	mg/kg	U/None	L	
PBSNI02ICS1 (LB)/ PBSNI02ICS1	Potassium	5.700	< 2.9	< 100	mg/kg	U/None	L	
PBSNI04ICS1 (LB)/ PBSNI04ICS1	Chromium	0.05300	< 0.026	< 1	mg/kg	U/None	L	
PBSNI04ICS1 (LB)/ PBSNI04ICS1	Aluminum	1.300	< 0.71	< 30	mg/kg	U/None	L	
PBSNI04ICS1 (LB)/ PBSNI04ICS1	Magnesium	1.500	< 0.68	< 10	mg/kg	U/None	L	
PBSNI04ICS1 (LB)/ PBSNI04ICS1	Potassium	17.00	< 2.9	< 100	mg/kg	U/None	L	
PBSNI04ICS1 (LB)/ PBSNI04ICS1	Sodium	2.800	< 1.5	< 100	mg/kg	U/None	L	
PBSNI04ICS1 (LB)/ PBSNI04ICS1	Calcium	3.500	< 1.8	< 10	mg/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6010, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS3-AUG2020 (MS)/ SN7314-004S	Aluminum	1154	74 - 119	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-MS3-AUG2020 (MS)/ SN7314-004S	Potassium	218.7	81 - 116	30 - 125	percent	J/None	M	
NHFLA-MS3-AUG2020 (MS)/ SN7314-004S	Zinc	67.80	82 - 113	30 - 125	percent	J/UJ	M	
NHFLA-MS3-AUG2020 (MS)/ SN7314-004S	Calcium	73.04	81 - 116	30 - 125	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MS3-AUG2020 (MS)/ SN7314-004S	Vanadium	116.0	82 - 114	30 - 125	percent	J/None	M	
NHFLA-MS3-AUG2020 (MS)/ SN7314-004S	Chromium	123.1	85 - 113	30 - 125	percent	J/None	M	
NHFLA-MS3-AUG2020 (MS)/ SN7314-004S	Antimony	29.95	79 - 114	30 - 125	percent	J/X	M	
NHFLA-MS3-AUG2020 (MS)/ SN7314-004S	Magnesium	356.6	78 - 115	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-MS3-AUG2020 (MS)/ SN7314-004S	Iron	60.61	81 - 118	30 - 125	percent	J/UJ	M	
NHFLA-MS3-AUG2020 (MS)/ SN7314-004S	Manganese	653.1	84 - 114	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-MS3-AUG2020 (MS)/ SN7314-004S	Copper	77.74	81 - 117	30 - 125	percent	J/UJ	M	
NHFLA-MS3-AUG2020 (MS)/ SN7314-004S	Nickel	78.53	83 - 113	30 - 125	percent	J/UJ	M	
NHFLA-MSD3-AUG2020 (SD)/ SN7314-004P	Aluminum	230.8	74 - 119	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-MSD3-AUG2020 (SD)/ SN7314-004P	Calcium	43.30	81 - 116	30 - 125	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MSD3-AUG2020 (SD)/ SN7314-004P	Zinc	68.27	82 - 113	30 - 125	percent	J/UJ	M	
NHFLA-MSD3-AUG2020 (SD)/ SN7314-004P	Manganese	1400	84 - 114	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-MSD3-AUG2020 (SD)/ SN7314-004P	Lead	163.9	81 - 112	30 - 125	percent	J/None	M	
NHFLA-MSD3-AUG2020 (SD)/ SN7314-004P	Antimony	25.87	79 - 114	30 - 125	percent	J/X	M	
NHFLA-MSD3-AUG2020 (SD)/ SN7314-004P	Iron	28.79	81 - 118	30 - 125	percent	J/X	M	
NHFLA-MSD3-AUG2020 (SD)/ SN7314-004P	Magnesium	301.2	78 - 115	30 - 125	percent	J/None	M	Spike amount Insignificant

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP4-AUG2020	FD	Antimony	1.50	0.210 JN	0.210 J	-	mg/kg	M/TR

Qualified Results associated with the MS Recovery for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP4-AUG2020	FD	Iron	19.0	28100 NA	28100 J	-	mg/kg	M
NHFLA-DUP4-AUG2020	FD	Lead	0.960	23.0 N	23.0 J	+	mg/kg	M
NHFLA-DUP4-AUG2020	FD	Chromium	1.90	17.1 N	17.1 J	+	mg/kg	M
NHFLA-DUP4-AUG2020	FD	Copper	4.80	32.9 N	32.9 J	-	mg/kg	M
NHFLA-DUP4-AUG2020	FD	Nickel	1.90	38.3 N	38.3 J	-	mg/kg	M
NHFLA-DUP4-AUG2020	FD	Potassium	96.0	1670 N*A	1670 J	+	mg/kg	M/D
NHFLA-DUP4-AUG2020	FD	Vanadium	1.90	27.9 N	27.9 J	+	mg/kg	M
NHFLA-DUP4-AUG2020	FD	Zinc	1.90	108 NEA	108 J	-	mg/kg	M
NHFLA-MW3-B-AUG2020	N	Antimony	0.690	0.250 J	0.250 J	-	mg/kg	M/TR
NHFLA-MW3-B-AUG2020	N	Iron	8.70	21600	21600 J	-	mg/kg	M
NHFLA-MW3-B-AUG2020	N	Lead	0.430	21.1	21.1 J	+	mg/kg	M
NHFLA-MW3-B-AUG2020	N	Chromium	0.870	16.8	16.8 J	+	mg/kg	M
NHFLA-MW3-B-AUG2020	N	Copper	2.20	26.8	26.8 J	-	mg/kg	M
NHFLA-MW3-B-AUG2020	N	Nickel	0.870	28.9	28.9 J	-	mg/kg	M
NHFLA-MW3-B-AUG2020	N	Potassium	87.0	1710	1710 J	+	mg/kg	M/D
NHFLA-MW3-B-AUG2020	N	Vanadium	0.870	27.0	27.0 J	+	mg/kg	M
NHFLA-MW3-B-AUG2020	N	Zinc	1.70	97.2	97.2 J	-	mg/kg	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6010, MS RPD

The objective of matrix spikes/matrix spike duplicates (MS/MSD) RPD analysis is to demonstrate acceptable method precision by the laboratory at the time of analysis. MS/MSD analyses are also performed to generate data that determines the long-term precision of the analytical method on various matrices. Non-homogenous samples can impact the apparent method precision. Summary forms were evaluated and compared to electronic data deliverables. Matrix spikes/matrix spike duplicates results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS3-AUG2020 (SD)/ SN7314-004P	Aluminum	22.93	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS3-AUG2020 (SD)/ SN7314-004P	Potassium	29.63	< 20	< 20	rpd	J/UJ	D	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS RPD for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP4-AUG2020	FD	Aluminum	29.0	13200 N*EA	13200 J		mg/kg	D
NHFLA-DUP4-AUG2020	FD	Potassium	96.0	1670 N*A	1670 J	+	mg/kg	M/D
NHFLA-MW3-B-AUG2020	N	Aluminum	26.0	13000	13000 J		mg/kg	D
NHFLA-MW3-B-AUG2020	N	Potassium	87.0	1710	1710 J	+	mg/kg	M/D

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB9-AUG2020 (EB)/ SN7314-5	Antimony	0.07100	< 0.055	< 1	ug/l	U/None	V	
NHFLA-EB9-AUG2020 (EB)/ SN7314-5	Chromium	0.3200	< 0.22	< 5	ug/l	U/None	V	
NHFLA-EB9-AUG2020 (EB)/ SN7314-5	Sodium	150.0	< 19	< 1000	ug/l	U/None	V	
NHFLA-EB9-AUG2020 (EB)/ SN7314-5	Magnesium	17.00	< 8	< 100	ug/l	U/None	V	
NHFLA-EB9-AUG2020 (EB)/ SN7314-5	Calcium	41.00	< 21	< 100	ug/l	U/None	V	
NHFLA-EB9-AUG2020 (EB)/ SN7314-5	Aluminum	7.500	< 4.4	< 100	ug/l	U/None	V	
NHFLA-EB9-AUG2020 (EB)/ SN7314-5	Manganese	0.6400	< 0.35	< 2	ug/l	U/None	V	
NHFLA-EB9-AUG2020 (EB)/ SN7314-5	Copper	0.8300	< 0.19	< 3	ug/l	U/None	V	
NHFLA-EB9-AUG2020 (EB)/ SN7314-5	Iron	25.00	< 13	< 100	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNI02IMW2 (LB)/ PBWNI02IMW2	Cadmium	0.04200	< 0.03	< 1	ug/l	U/None	L	
PBWNI02IMW2 (LB)/ PBWNI02IMW2	Beryllium	0.04300	< 0.034	< 1	ug/l	U/None	L	
PBWNI02IMW2 (LB)/ PBWNI02IMW2	Antimony	0.1200	< 0.054	< 1	ug/l	U/None	L	
PBWNI02IMW2 (LB)/ PBWNI02IMW2	Chromium	0.4700	< 0.22	< 5	ug/l	U/None	L	
PBWNI02IMW2 (LB)/ PBWNI02IMW2	Barium	1.400	< 0.27	< 2	ug/l	U/None	L	
PBWNI02IMW2 (LB)/ PBWNI02IMW2	Aluminum	14.00	< 4.4	< 100	ug/l	U/None	L	
PBWNI02IMW2 (LB)/ PBWNI02IMW2	Magnesium	15.00	< 7.8	< 100	ug/l	U/None	L	
PBWNI02IMW2 (LB)/ PBWNI02IMW2	Sodium	69.00	< 19	< 1000	ug/l	U/None	L	
PBWNI11IMW1 (LB)/ PBWNI11IMW1	Copper	0.4600	< 0.18	< 3	ug/l	U/None	L	
PBWNI11IMW1 (LB)/ PBWNI11IMW1	Manganese	0.5800	< 0.35	< 2	ug/l	U/None	L	
PBWNI11IMW1 (LB)/ PBWNI11IMW1	Iron	20.00	< 13	< 100	ug/l	U/None	L	
PBWNI11IMW1 (LB)/ PBWNI11IMW1	Cobalt	0.1200	< 0.061	< 1	ug/l	U/None	L	
PBWNI11IMW1 (LB)/ PBWNI11IMW1	Lead	0.1300	< 0.074	< 1	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB9-AUG2020	EB	Aluminum	100	7.50 J	40.0 U		ug/l	L
NHFLA-EB9-AUG2020	EB	Antimony	1.00	0.0710 J	0.500 U		ug/l	L
NHFLA-EB9-AUG2020	EB	Chromium	5.00	0.320 J	4.00 U		ug/l	L
NHFLA-EB9-AUG2020	EB	Magnesium	100	17.0 J	80.0 U		ug/l	L
NHFLA-EB9-AUG2020	EB	Sodium	1000	150 J	400 U		ug/l	L
NHFLA-EB9-AUG2020	EB	Copper	3.00	0.830 J	2.00 U		ug/l	L
NHFLA-EB9-AUG2020	EB	Iron	100	25.0 J	60.0 U		ug/l	L
NHFLA-EB9-AUG2020	EB	Manganese	2.00	0.640 J	1.00 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
LCSWNI02IMW2 (BS)/ LCSWNI02IMW2	Thallium	119.0	82 - 116	30 - 150	percent	J/None	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7196, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB9-AUG2020 (EB)/ SN7314-5	Chromium, Hexavalent	0.003400	< 0.00076	< 0.025	mg/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7196, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285497-1 (LB)/ WG285497-1	Chromium, Hexavalent	0.002400	< 0.00076	< 0.025	mg/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB9-AUG2020	EB	Chromium, Hexavalent	0.0250	0.00340 J	0.0125 U		mg/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS3-AUG2020 (MS)/ WG286124-3	Chromium, Hexavalent	83.19	84 - 110	30 - 125	percent	J/UJ	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP4-AUG2020	FD	Chromium, Hexavalent	0.560	0.340 U	0.340 UJ		mg/kg	M
NHFLA-MW3-B-AUG2020	N	Chromium, Hexavalent	0.550	0.330 U	0.330 UJ		mg/kg	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-DUP3-AUG2020 (FD)/ SN7314-3		9.090	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-DUP4-AUG2020 (FD)/ SN7314-4		9.070	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-MW3-A-AUG2020 (N)/ SN7314-1		3.250	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-MW3-B-AUG2020 (N)/ SN7314-2		9.070	< 1	< 2	days	J/X	H1	Test Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7470, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNI02HGW1 (LB)/ PBWNI02HGW1	Mercury	0.01300	< 0.013	< 0.2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7471, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MSD3-AUG2020 (SD)/ SN7314-004P	Mercury	78.54	80 - 124	30 - 125	percent	J/UJ	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW7471

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP4-AUG2020	FD	Mercury	0.0310	0.0518 NA	0.0518 J	-	mg/kg	M
NHFLA-MW3-B-AUG2020	N	Mercury	0.0310	0.0450	0.0450 J	-	mg/kg	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB9-AUG2020 (EB)/ SN7314-5	Toluene	0.3000	< 0.27	< 1	ug/l	U/None	V	
NHFLA-EB9-AUG2020 (EB)/ SN7314-5	Methylene chloride	1.400	< 1.1	< 5	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG286120-2 (LB)/ WG286120-2	Methylene chloride	11.00	< 7.9	< 25	ug/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP3-AUG2020	FD	Methylene chloride	25.0	14.0 J	25.0 U		ug/kg	L
NHFLA-DUP4-AUG2020	FD	Methylene chloride	22.0	12.0 J	22.0 U		ug/kg	L
NHFLA-MW3-A-AUG2020	N	Methylene chloride	21.0	13.0 J	21.0 UJ		ug/kg	L/I
NHFLA-MW3-B-AUG2020	N	Methylene chloride	25.0	20.0 J	25.0 UJ		ug/kg	L/I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS3-AUG2020 (MS)/ WG286120-6	Trichlorofluoromethane	141.7	62 - 140	10 - 140	percent	J/None	M	
NHFLA-MS3-AUG2020 (MS)/ WG286120-6	1,2,3-Trichlorobenzene	54.17	66 - 130	10 - 130	percent	J/UJ	M	
NHFLA-MS3-AUG2020 (MS)/ WG286120-6	1,2,4-Trichlorobenzene	54.17	67 - 129	10 - 129	percent	J/UJ	M	
NHFLA-MS3-AUG2020 (MS)/ WG286120-6	1,4-Dichlorobenzene	66.67	75 - 120	10 - 120	percent	J/UJ	M	
NHFLA-MS3-AUG2020 (MS)/ WG286120-6	1,3-Dichlorobenzene	66.67	77 - 121	10 - 121	percent	J/UJ	M	
NHFLA-MS3-AUG2020 (MS)/ WG286120-6	1,2-Dichlorobenzene	66.67	78 - 121	10 - 121	percent	J/UJ	M	
NHFLA-MS3-AUG2020 (MS)/ WG286120-6	Chlorobenzene	77.08	79 - 120	10 - 120	percent	J/UJ	M	
NHFLA-MSD3-AUG2020 (SD)/ WG286120-7	1,2,3-Trichlorobenzene	64.15	66 - 130	10 - 130	percent	J/UJ	M	
NHFLA-MSD3-AUG2020 (SD)/ WG286120-7	1,2,4-Trichlorobenzene	66.04	67 - 129	10 - 129	percent	J/UJ	M	
NHFLA-MSD3-AUG2020 (SD)/ WG286120-7	1,4-Dichlorobenzene	73.58	75 - 120	10 - 120	percent	J/UJ	M	
NHFLA-MSD3-AUG2020 (SD)/ WG286120-7	1,2-Dichlorobenzene	73.58	78 - 121	10 - 121	percent	J/UJ	M	
NHFLA-MSD3-AUG2020 (SD)/ WG286120-7	1,3-Dichlorobenzene	75.47	77 - 121	10 - 121	percent	J/UJ	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP4-AUG2020	FD	1,2,3-Trichlorobenzene	4.40	2.20 UMM	2.20 UJ		ug/kg	M/D
NHFLA-DUP4-AUG2020	FD	1,2,4-Trichlorobenzene	4.40	2.20 UMM	2.20 UJ		ug/kg	M/D
NHFLA-DUP4-AUG2020	FD	1,2-Dichlorobenzene	4.40	2.20 UMM	2.20 UJ		ug/kg	M
NHFLA-DUP4-AUG2020	FD	1,3-Dichlorobenzene	4.40	2.20 UMM	2.20 UJ		ug/kg	M/D
NHFLA-DUP4-AUG2020	FD	1,4-Dichlorobenzene	4.40	2.20 UMM	2.20 UJ		ug/kg	M
NHFLA-DUP4-AUG2020	FD	Chlorobenzene	4.40	2.20 UM	2.20 UJ		ug/kg	M
NHFLA-MW3-B-AUG2020	N	1,2,3-Trichlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	M/D/I
NHFLA-MW3-B-AUG2020	N	1,2,4-Trichlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	M/D/I
NHFLA-MW3-B-AUG2020	N	1,2-Dichlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	M/I
NHFLA-MW3-B-AUG2020	N	1,3-Dichlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	M/D/I
NHFLA-MW3-B-AUG2020	N	1,4-Dichlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	M/I

Qualified Results associated with the MS Recovery for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW3-B-AUG2020	N	Chlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	M/I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, MS RPD

The objective of matrix spikes/matrix spike duplicates (MS/MSD) RPD analysis is to demonstrate acceptable method precision by the laboratory at the time of analysis. MS/MSD analyses are also performed to generate data that determines the long-term precision of the analytical method on various matrices. Non-homogenous samples can impact the apparent method precision. Summary forms were evaluated and compared to electronic data deliverables. Matrix spikes/matrix spike duplicates results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS3-AUG2020 (SD)/ WG286120-7	Bromoform	20.51	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS3-AUG2020 (SD)/ WG286120-7	1,3-Dichlorobenzene	22.22	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS3-AUG2020 (SD)/ WG286120-7	Methylcyclohexane	23.16	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS3-AUG2020 (SD)/ WG286120-7	1,2-Dibromo-3-chloropropane	24.00	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS3-AUG2020 (SD)/ WG286120-7	Methyl acetate	24.00	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS3-AUG2020 (SD)/ WG286120-7	1,2,3-Trichlorobenzene	26.67	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS3-AUG2020 (SD)/ WG286120-7	1,2,4-Trichlorobenzene	29.51	< 20	< 20	rpd	J/UJ	D	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS RPD for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP4-AUG2020	FD	1,2,3-Trichlorobenzene	4.40	2.20 UMM	2.20 UJ		ug/kg	M/D
NHFLA-DUP4-AUG2020	FD	1,2,4-Trichlorobenzene	4.40	2.20 UMM	2.20 UJ		ug/kg	M/D
NHFLA-DUP4-AUG2020	FD	1,2-Dibromo-3-chloropropane	4.40	2.20 U	2.20 U		ug/kg	D
NHFLA-DUP4-AUG2020	FD	1,3-Dichlorobenzene	4.40	2.20 UMM	2.20 UJ		ug/kg	M/D
NHFLA-DUP4-AUG2020	FD	Bromoform	4.40	2.20 U	2.20 U		ug/kg	D
NHFLA-DUP4-AUG2020	FD	Methyl acetate	4.40	2.60 U	2.60 U		ug/kg	D
NHFLA-DUP4-AUG2020	FD	Methylcyclohexane	4.40	2.20 U	2.20 U		ug/kg	D
NHFLA-MW3-B-AUG2020	N	1,2,3-Trichlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	M/D/I
NHFLA-MW3-B-AUG2020	N	1,2,4-Trichlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	M/D/I
NHFLA-MW3-B-AUG2020	N	1,2-Dibromo-3-chloropropane	5.00	2.50 U	2.50 UJ		ug/kg	D/I
NHFLA-MW3-B-AUG2020	N	1,3-Dichlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	M/D/I
NHFLA-MW3-B-AUG2020	N	Methyl acetate	5.00	3.00 U	3.00 UJ		ug/kg	D/I
NHFLA-MW3-B-AUG2020	N	Methylcyclohexane	5.00	2.50 U	2.50 UJ		ug/kg	D/I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW3-A-AUG2020 (N)/ SN7314-1	1-Bromo-4-fluorobenzene (4-Bromofluorobenzene)	70.80	79 - 119	10 - 119	percent	J/UJ	I	
NHFLA-MW3-B-AUG2020 (N)/ SN7314-2	1-Bromo-4-fluorobenzene (4-Bromofluorobenzene)	76.20	79 - 119	10 - 119	percent	J/UJ	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW3-A-AUG2020	N	1,1,1-Trichloroethane	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	1,1,2,2-Tetrachloroethane	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	1,1,2-Trichloroethane	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	1,1-Dichloroethane	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	1,1-Dichloroethene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	1,2,3-Trichlorobenzene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	1,2,4-Trichlorobenzene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	1,2-Dibromo-3-chloropropane	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	1,2-Dibromoethane (EDB)	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	1,2-Dichlorobenzene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	1,2-Dichloroethane	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	1,2-Dichloropropane	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	1,3-Dichlorobenzene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	1,4-Dichlorobenzene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	2-Butanone (MEK)	21.0	10.0 U	10.0 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	2-Hexanone	21.0	10.0 U	10.0 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	4-Methyl-2-pentanone (MIBK)	21.0	10.0 U	10.0 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Acetone	21.0	10.0 U	10.0 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Benzene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Bromochloromethane	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Bromodichloromethane	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Bromoform	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Bromomethane	8.30	4.20 U	4.20 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Carbon disulfide	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Carbon tetrachloride	4.20	2.10 U	2.10 UJ		ug/kg	I

Qualified Results associated with the Surrogate for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW3-A-AUG2020	N	Chlorobenzene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Chloroethane	8.30	4.20 U	4.20 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Chloroform	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Chloromethane	8.30	4.20 U	4.20 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	cis-1,2-Dichloroethene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	cis-1,3-Dichloropropene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Cyclohexane	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Dibromochloromethane	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Dichlorodifluoromethane	8.30	4.20 U	4.20 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Ethylbenzene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Isopropylbenzene (Cumene)	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	m,p-Xylene	8.30	4.20 U	4.20 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Methyl acetate	4.20	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Methyl tert-butyl ether (MTBE)	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Methylcyclohexane	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Methylene chloride	21.0	13.0 J	21.0 UJ		ug/kg	L/I
NHFLA-MW3-A-AUG2020	N	o-Xylene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Styrene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Tetrachloroethene (PCE)	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Toluene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	trans-1,2-Dichloroethene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	trans-1,3-Dichloropropene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Trichloroethene (TCE)	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Trichlorofluoromethane	8.30	4.20 U	4.20 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Vinyl chloride	8.30	4.20 U	4.20 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	1,1,1-Trichloroethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	1,1,2,2-Tetrachloroethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	1,1,2-Trichloroethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	1,1-Dichloroethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	1,1-Dichloroethene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	1,2,3-Trichlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	M/D/I
NHFLA-MW3-B-AUG2020	N	1,2,4-Trichlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	M/D/I
NHFLA-MW3-B-AUG2020	N	1,2-Dibromo-3-chloropropane	5.00	2.50 U	2.50 UJ		ug/kg	D/I
NHFLA-MW3-B-AUG2020	N	1,2-Dibromoethane (EDB)	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	1,2-Dichlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	M/I
NHFLA-MW3-B-AUG2020	N	1,2-Dichloroethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	1,2-Dichloropropane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	1,3-Dichlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	M/D/I
NHFLA-MW3-B-AUG2020	N	1,4-Dichlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	M/I

Qualified Results associated with the Surrogate for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW3-B-AUG2020	N	2-Butanone (MEK)	25.0	12.0 U	12.0 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	2-Hexanone	25.0	12.0 U	12.0 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	4-Methyl-2-pentanone (MIBK)	25.0	12.0 U	12.0 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Acetone	25.0	12.0 U	12.0 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Benzene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Bromochloromethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Bromodichloromethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Bromoform	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Bromomethane	10.0	5.00 U	5.00 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Carbon disulfide	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Carbon tetrachloride	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Chlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	M/I
NHFLA-MW3-B-AUG2020	N	Chloroethane	10.0	5.00 U	5.00 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Chloroform	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Chloromethane	10.0	5.00 U	5.00 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	cis-1,2-Dichloroethene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	cis-1,3-Dichloropropene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Cyclohexane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Dibromochloromethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Dichlorodifluoromethane	10.0	5.00 U	5.00 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Ethylbenzene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Isopropylbenzene (Cumene)	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	m,p-Xylene	10.0	5.00 U	5.00 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Methyl acetate	5.00	3.00 U	3.00 UJ		ug/kg	D/I
NHFLA-MW3-B-AUG2020	N	Methyl tert-butyl ether (MTBE)	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Methylcyclohexane	5.00	2.50 U	2.50 UJ		ug/kg	D/I
NHFLA-MW3-B-AUG2020	N	Methylene chloride	25.0	20.0 J	25.0 UJ		ug/kg	L/I
NHFLA-MW3-B-AUG2020	N	o-Xylene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Styrene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Tetrachloroethene (PCE)	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Toluene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	trans-1,2-Dichloroethene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	trans-1,3-Dichloropropene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Trichloroethene (TCE)	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Trichlorofluoromethane	10.0	5.00 U	5.00 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Vinyl chloride	10.0	5.00 U	5.00 UJ		ug/kg	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-DUP3-AUG2020 (FD)/ SN7314-3		14.23	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL
NHFLA-DUP4-AUG2020 (FD)/ SN7314-4		14.23	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL
NHFLA-MW3-A-AUG2020 (N)/ SN7314-1		14.18	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL
NHFLA-MW3-B-AUG2020 (N)/ SN7314-2		14.18	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Trip Blank

The purpose of trip blanks is to determine the existence and magnitude of cross-contamination problems resulting from the shipping of samples. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in trip blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-TB10-AUG2020 (TB)/ SN7314-6	Methylene chloride	1.200	< 1.1	< 5	ug/l	U/None	T	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB9-AUG2020 (EB)/ SN7314-5	Bis(2-ethylhexyl)phthalate	13.00	< 1.6	< 9.6	ug/l	U/None	V	
NHFLA-EB9-AUG2020 (EB)/ SN7314-5	Diethyl phthalate	4.400	< 1.9	< 9.6	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285454-1 (LB)/ WG285454-1	Bis(2-ethylhexyl)phthalate	14.00	< 1.7	< 10	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB9-AUG2020	EB	Bis(2-ethylhexyl)phthalate	13.0	13.0 B	13.0 UJ		ug/l	L/I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285465-1 (LB)/ WG285465-1	Bis(2-ethylhexyl)phthalate	2700	< 98	< 330	ug/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP3-AUG2020	FD	Bis(2-ethylhexyl)phthalate	1500	1500 BL	1500 U		ug/kg	L/C
NHFLA-DUP4-AUG2020	FD	Bis(2-ethylhexyl)phthalate	1400	1400 BL	1400 U		ug/kg	L/C
NHFLA-MW3-A-AUG2020	N	Bis(2-ethylhexyl)phthalate	760	760 BL	760 U		ug/kg	L/C
NHFLA-MW3-B-AUG2020	N	Bis(2-ethylhexyl)phthalate	1000	1000 BL	1000 U		ug/kg	L/C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285454-2 (BS)/ WG285454-2	Benzaldehyde	314.0	10 - 189	10 - 189	percent	J/None	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285465-2 (BS)/ WG285465-2	Bis(2-ethylhexyl)phthalate	137.1	51 - 133	10 - 133	percent	J/None	C	
WG285465-2 (BS)/ WG285465-2	3,3'-Dichlorobenzidine	138.3	22 - 121	10 - 121	percent	J/None	C	
WG285465-2 (BS)/ WG285465-2	Benzaldehyde	268.3	10 - 134	10 - 134	percent	J/None	C	
WG285465-3 (BD)/ WG285465-3	Benzaldehyde	277.8	10 - 134	10 - 134	percent	J/None	C	
WG285465-3 (BD)/ WG285465-3	Caprolactam	40.24	46 - 117	10 - 117	percent	J/UJ	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP3-AUG2020	FD	Bis(2-ethylhexyl)phthalate	1500	1500 BL	1500 U		ug/kg	L/C
NHFLA-DUP3-AUG2020	FD	Caprolactam	310	240 UL	240 UJ		ug/kg	C
NHFLA-DUP4-AUG2020	FD	Bis(2-ethylhexyl)phthalate	1400	1400 BL	1400 U		ug/kg	L/C
NHFLA-DUP4-AUG2020	FD	Caprolactam	330	250 UL	250 UJ		ug/kg	C
NHFLA-MW3-A-AUG2020	N	Bis(2-ethylhexyl)phthalate	760	760 BL	760 U		ug/kg	L/C
NHFLA-MW3-A-AUG2020	N	Caprolactam	340	250 UL	250 UJ		ug/kg	C
NHFLA-MW3-B-AUG2020	N	Bis(2-ethylhexyl)phthalate	1000	1000 BL	1000 U		ug/kg	L/C
NHFLA-MW3-B-AUG2020	N	Caprolactam	320	240 UL	240 UJ		ug/kg	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS3-AUG2020 (MS)/ WG285465-4	Benzaldehyde	214.7	10 - 34	10 - 134	percent	J/None	M	
NHFLA-MSD3-AUG2020 (SD)/ WG285465-5	Benzaldehyde	225.8	10 - 34	10 - 134	percent	J/None	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB9-AUG2020 (EB)/ SN7314-5	2,4,6-Tribromophenol	42.60	43 - 140	10 - 140	percent	J/UJ	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB9-AUG2020	EB	2,4,5-Trichlorophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB9-AUG2020	EB	2,4,6-Trichlorophenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-EB9-AUG2020	EB	2,4-Dichlorophenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-EB9-AUG2020	EB	2,4-Dimethylphenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-EB9-AUG2020	EB	2,4-Dinitrophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB9-AUG2020	EB	2-Chlorophenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-EB9-AUG2020	EB	2-Methylphenol (o-Cresol)	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-EB9-AUG2020	EB	2-Nitrophenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-EB9-AUG2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB9-AUG2020	EB	4-Chloro-3-methylphenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-EB9-AUG2020	EB	4-Nitrophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB9-AUG2020	EB	Bis(2-ethylhexyl)phthalate	13.0	13.0 B	13.0 UJ		ug/l	L/I
NHFLA-EB9-AUG2020	EB	Cresols, m- & p-	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-EB9-AUG2020	EB	Pentachlorophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB9-AUG2020	EB	Phenol	9.60	7.20 U	7.20 UJ		ug/l	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Table of All Qualified Results

Test Method: BNASIM	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB9-AUG2020	EB	Dibenz(a,h)anthracene	0.190	0.0960 UL	0.0960 UJ		ug/l	C
NHFLA-EB9-AUG2020	EB	Indeno(1,2,3-c,d)pyrene	0.190	0.0960 UL	0.0960 UJ		ug/l	C

Test Method: BNASIM	Extraction Method: SW3550							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP4-AUG2020	FD	Anthracene	20.0	22.0 M	22.0 J	+	ug/kg	M/D
NHFLA-DUP4-AUG2020	FD	Benzo(b)fluoranthene	20.0	280 MM	280 J		ug/kg	D/M
NHFLA-DUP4-AUG2020	FD	Benzo(k)fluoranthene	20.0	100 MM	100 J	+	ug/kg	M
NHFLA-DUP4-AUG2020	FD	Chrysene	20.0	200 MM	200 J		ug/kg	D/M
NHFLA-DUP4-AUG2020	FD	Dibenz(a,h)anthracene	20.0	25.0 M	25.0 J	+	ug/kg	M/D
NHFLA-DUP4-AUG2020	FD	Fluoranthene	20.0	330 MM	330 J		ug/kg	M
NHFLA-DUP4-AUG2020	FD	Pyrene	20.0	380 MM	380 J		ug/kg	M
NHFLA-DUP4-AUG2020	FD	Benzo(a)anthracene	20.0	180 MM	180 J		ug/kg	D/M
NHFLA-DUP4-AUG2020	FD	Benzo(a)pyrene	20.0	200 MM	200 J		ug/kg	D/M
NHFLA-DUP4-AUG2020	FD	Benzo(g,h,i)perylene	20.0	140 M	140 J	+	ug/kg	M/D
NHFLA-DUP4-AUG2020	FD	Indeno(1,2,3-c,d)pyrene	20.0	140 M	140 J	-	ug/kg	M/D
NHFLA-DUP4-AUG2020	FD	Phenanthrene	20.0	160 MM	160 J		ug/kg	D/M
NHFLA-MW3-B-AUG2020	N	Anthracene	19.0	31.0	31.0 J	+	ug/kg	M/D
NHFLA-MW3-B-AUG2020	N	Benzo(b)fluoranthene	19.0	350	350 J		ug/kg	D/M
NHFLA-MW3-B-AUG2020	N	Benzo(k)fluoranthene	19.0	110	110 J	+	ug/kg	M
NHFLA-MW3-B-AUG2020	N	Chrysene	19.0	250	250 J		ug/kg	D/M
NHFLA-MW3-B-AUG2020	N	Dibenz(a,h)anthracene	19.0	47.0	47.0 J	+	ug/kg	M/D
NHFLA-MW3-B-AUG2020	N	Fluoranthene	19.0	390	390 J		ug/kg	M
NHFLA-MW3-B-AUG2020	N	Pyrene	19.0	440	440 J		ug/kg	M
NHFLA-MW3-B-AUG2020	N	Benzo(a)anthracene	19.0	230	230 J		ug/kg	D/M
NHFLA-MW3-B-AUG2020	N	Benzo(a)pyrene	19.0	250	250 J		ug/kg	D/M
NHFLA-MW3-B-AUG2020	N	Benzo(g,h,i)perylene	19.0	150	150 J	+	ug/kg	M/D
NHFLA-MW3-B-AUG2020	N	Indeno(1,2,3-c,d)pyrene	19.0	140	140 J	-	ug/kg	M/D
NHFLA-MW3-B-AUG2020	N	Phenanthrene	19.0	190	190 J		ug/kg	D/M

Test Method: LYDKHN	Extraction Method: METHOD							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP4-AUG2020	FD	Total Organic Carbon	950	18000	18000 J	-	ug/g	M
NHFLA-MW3-B-AUG2020	N	Total Organic Carbon	680	23000	23000 J	-	ug/g	M

Test Method: SW6010	Extraction Method: SW3050							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP3-AUG2020	FD	Calcium	22.0	62600	62600 J		mg/kg	D3
NHFLA-DUP4-AUG2020	FD	Aluminum	29.0	13200 N*EA	13200 J		mg/kg	D
NHFLA-DUP4-AUG2020	FD	Antimony	1.50	0.210 JN	0.210 J	-	mg/kg	M/TR
NHFLA-DUP4-AUG2020	FD	Iron	19.0	28100 NA	28100 J	-	mg/kg	M
NHFLA-DUP4-AUG2020	FD	Lead	0.960	23.0 N	23.0 J	+	mg/kg	M

Table of All Qualified Results

Test Method: SW6010	Extraction Method: SW3050							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP4-AUG2020	FD	Chromium	1.90	17.1 N	17.1 J	+	mg/kg	M
NHFLA-DUP4-AUG2020	FD	Copper	4.80	32.9 N	32.9 J	-	mg/kg	M
NHFLA-DUP4-AUG2020	FD	Nickel	1.90	38.3 N	38.3 J	-	mg/kg	M
NHFLA-DUP4-AUG2020	FD	Potassium	96.0	1670 N*A	1670 J	+	mg/kg	M/D
NHFLA-DUP4-AUG2020	FD	Vanadium	1.90	27.9 N	27.9 J	+	mg/kg	M
NHFLA-DUP4-AUG2020	FD	Zinc	1.90	108 NEA	108 J	-	mg/kg	M
NHFLA-DUP4-AUG2020	FD	Calcium	9.60	29400 NEA	29400 J		mg/kg	D3
NHFLA-MW3-A-AUG2020	N	Calcium	49.0	196000	196000 J		mg/kg	D3
NHFLA-MW3-B-AUG2020	N	Aluminum	26.0	13000	13000 J		mg/kg	D
NHFLA-MW3-B-AUG2020	N	Antimony	0.690	0.250 J	0.250 J	-	mg/kg	M/TR
NHFLA-MW3-B-AUG2020	N	Iron	8.70	21600	21600 J	-	mg/kg	M
NHFLA-MW3-B-AUG2020	N	Lead	0.430	21.1	21.1 J	+	mg/kg	M
NHFLA-MW3-B-AUG2020	N	Chromium	0.870	16.8	16.8 J	+	mg/kg	M
NHFLA-MW3-B-AUG2020	N	Copper	2.20	26.8	26.8 J	-	mg/kg	M
NHFLA-MW3-B-AUG2020	N	Nickel	0.870	28.9	28.9 J	-	mg/kg	M
NHFLA-MW3-B-AUG2020	N	Potassium	87.0	1710	1710 J	+	mg/kg	M/D
NHFLA-MW3-B-AUG2020	N	Vanadium	0.870	27.0	27.0 J	+	mg/kg	M
NHFLA-MW3-B-AUG2020	N	Zinc	1.70	97.2	97.2 J	-	mg/kg	M
NHFLA-MW3-B-AUG2020	N	Calcium	17.0	56200	56200 J		mg/kg	D3

Test Method: SW6020	Extraction Method: SW3010							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB9-AUG2020	EB	Aluminum	100	7.50 J	40.0 U		ug/l	L
NHFLA-EB9-AUG2020	EB	Antimony	1.00	0.0710 J	0.500 U		ug/l	L
NHFLA-EB9-AUG2020	EB	Chromium	5.00	0.320 J	4.00 U		ug/l	L
NHFLA-EB9-AUG2020	EB	Magnesium	100	17.0 J	80.0 U		ug/l	L
NHFLA-EB9-AUG2020	EB	Sodium	1000	150 J	400 U		ug/l	L
NHFLA-EB9-AUG2020	EB	Copper	3.00	0.830 J	2.00 U		ug/l	L
NHFLA-EB9-AUG2020	EB	Iron	100	25.0 J	60.0 U		ug/l	L
NHFLA-EB9-AUG2020	EB	Manganese	2.00	0.640 J	1.00 U		ug/l	L

Test Method: SW7196	Extraction Method: NONE							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB9-AUG2020	EB	Chromium, Hexavalent	0.0250	0.00340 J	0.0125 U		mg/l	L

Test Method: SW7196	Extraction Method: SW3060							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP4-AUG2020	FD	Chromium, Hexavalent	0.560	0.340 U	0.340 UJ		mg/kg	M
NHFLA-MW3-B-AUG2020	N	Chromium, Hexavalent	0.550	0.330 U	0.330 UJ		mg/kg	M

Test Method: SW7471	Extraction Method: METHOD							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP4-AUG2020	FD	Mercury	0.0310	0.0518 NA	0.0518 J	-	mg/kg	M
NHFLA-MW3-B-AUG2020	N	Mercury	0.0310	0.0450	0.0450 J	-	mg/kg	M

Table of All Qualified Results

Test Method: SW8260 Extraction Method: SW5035								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP3-AUG2020	FD	Methylene chloride	25.0	14.0 J	25.0 U		ug/kg	L
NHFLA-DUP4-AUG2020	FD	Methylene chloride	22.0	12.0 J	22.0 U		ug/kg	L
NHFLA-DUP4-AUG2020	FD	1,2-Dichlorobenzene	4.40	2.20 UMM	2.20 UJ		ug/kg	M
NHFLA-DUP4-AUG2020	FD	1,4-Dichlorobenzene	4.40	2.20 UMM	2.20 UJ		ug/kg	M
NHFLA-DUP4-AUG2020	FD	Chlorobenzene	4.40	2.20 UM	2.20 UJ		ug/kg	M
NHFLA-DUP4-AUG2020	FD	1,2,3-Trichlorobenzene	4.40	2.20 UMM	2.20 UJ		ug/kg	M/D
NHFLA-DUP4-AUG2020	FD	1,2,4-Trichlorobenzene	4.40	2.20 UMM	2.20 UJ		ug/kg	M/D
NHFLA-DUP4-AUG2020	FD	1,2-Dibromo-3-chloropropane	4.40	2.20 U	2.20 U		ug/kg	D
NHFLA-DUP4-AUG2020	FD	1,3-Dichlorobenzene	4.40	2.20 UMM	2.20 UJ		ug/kg	M/D
NHFLA-DUP4-AUG2020	FD	Bromoform	4.40	2.20 U	2.20 U		ug/kg	D
NHFLA-DUP4-AUG2020	FD	Methyl acetate	4.40	2.60 U	2.60 U		ug/kg	D
NHFLA-DUP4-AUG2020	FD	Methylcyclohexane	4.40	2.20 U	2.20 U		ug/kg	D
NHFLA-MW3-A-AUG2020	N	1,1,1-Trichloroethane	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	1,1,2,2-Tetrachloroethane	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	1,1,2-Trichloroethane	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	1,1-Dichloroethane	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	1,1-Dichloroethene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	1,2,3-Trichlorobenzene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	1,2,4-Trichlorobenzene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	1,2-Dibromo-3-chloropropane	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	1,2-Dibromoethane (EDB)	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	1,2-Dichlorobenzene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	1,2-Dichloroethane	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	1,2-Dichloropropane	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	1,3-Dichlorobenzene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	1,4-Dichlorobenzene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	2-Butanone (MEK)	21.0	10.0 U	10.0 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	2-Hexanone	21.0	10.0 U	10.0 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	4-Methyl-2-pentanone (MIBK)	21.0	10.0 U	10.0 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Acetone	21.0	10.0 U	10.0 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Benzene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Bromochloromethane	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Bromodichloromethane	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Bromoform	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Bromomethane	8.30	4.20 U	4.20 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Carbon disulfide	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Carbon tetrachloride	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Chlorobenzene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Chloroethane	8.30	4.20 U	4.20 UJ		ug/kg	I

Table of All Qualified Results

Test Method: SW8260 Extraction Method: SW5035

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW3-A-AUG2020	N	Chloroform	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Chloromethane	8.30	4.20 U	4.20 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	cis-1,2-Dichloroethene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	cis-1,3-Dichloropropene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Cyclohexane	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Dibromochloromethane	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Dichlorodifluoromethane	8.30	4.20 U	4.20 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Ethylbenzene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Isopropylbenzene (Cumene)	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	m,p-Xylene	8.30	4.20 U	4.20 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Methyl acetate	4.20	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Methyl tert-butyl ether (MTBE)	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Methylcyclohexane	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	o-Xylene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Styrene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Tetrachloroethene (PCE)	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Toluene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	trans-1,2-Dichloroethene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	trans-1,3-Dichloropropene	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Trichloroethene (TCE)	4.20	2.10 U	2.10 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Trichlorofluoromethane	8.30	4.20 U	4.20 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Vinyl chloride	8.30	4.20 U	4.20 UJ		ug/kg	I
NHFLA-MW3-A-AUG2020	N	Methylene chloride	21.0	13.0 J	21.0 UJ		ug/kg	L/I
NHFLA-MW3-B-AUG2020	N	1,1,1-Trichloroethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	1,1,2,2-Tetrachloroethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	1,1,2-Trichloroethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	1,1-Dichloroethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	1,1-Dichloroethene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	1,2-Dibromoethane (EDB)	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	1,2-Dichloroethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	1,2-Dichloropropane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	2-Butanone (MEK)	25.0	12.0 U	12.0 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	2-Hexanone	25.0	12.0 U	12.0 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	4-Methyl-2-pentanone (MIBK)	25.0	12.0 U	12.0 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Acetone	25.0	12.0 U	12.0 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Benzene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Bromochloromethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Bromodichloromethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Bromoform	5.00	2.50 U	2.50 UJ		ug/kg	I

Table of All Qualified Results

Test Method: SW8260	Extraction Method: SW5035							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW3-B-AUG2020	N	Bromomethane	10.0	5.00 U	5.00 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Carbon disulfide	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Carbon tetrachloride	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Chlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	M/I
NHFLA-MW3-B-AUG2020	N	Chloroethane	10.0	5.00 U	5.00 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Chloroform	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Chloromethane	10.0	5.00 U	5.00 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	cis-1,2-Dichloroethene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	cis-1,3-Dichloropropene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Cyclohexane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Dibromochloromethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Dichlorodifluoromethane	10.0	5.00 U	5.00 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Ethylbenzene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Isopropylbenzene (Cumene)	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	m,p-Xylene	10.0	5.00 U	5.00 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Methyl tert-butyl ether (MTBE)	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	o-Xylene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Styrene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Tetrachloroethene (PCE)	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Toluene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	trans-1,2-Dichloroethene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	trans-1,3-Dichloropropene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Trichloroethene (TCE)	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Trichlorofluoromethane	10.0	5.00 U	5.00 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Vinyl chloride	10.0	5.00 U	5.00 UJ		ug/kg	I
NHFLA-MW3-B-AUG2020	N	Methylene chloride	25.0	20.0 J	25.0 UJ		ug/kg	L/I
NHFLA-MW3-B-AUG2020	N	1,2-Dichlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	M/I
NHFLA-MW3-B-AUG2020	N	1,4-Dichlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	M/I
NHFLA-MW3-B-AUG2020	N	1,2,3-Trichlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	M/D/I
NHFLA-MW3-B-AUG2020	N	1,2,4-Trichlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	M/D/I
NHFLA-MW3-B-AUG2020	N	1,2-Dibromo-3-chloropropane	5.00	2.50 U	2.50 UJ		ug/kg	D/I
NHFLA-MW3-B-AUG2020	N	1,3-Dichlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	M/D/I
NHFLA-MW3-B-AUG2020	N	Methyl acetate	5.00	3.00 U	3.00 UJ		ug/kg	D/I
NHFLA-MW3-B-AUG2020	N	Methylcyclohexane	5.00	2.50 U	2.50 UJ		ug/kg	D/I

Test Method: SW8270	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB9-AUG2020	EB	2,4,5-Trichlorophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB9-AUG2020	EB	2,4,6-Trichlorophenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-EB9-AUG2020	EB	2,4-Dichlorophenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-EB9-AUG2020	EB	2,4-Dimethylphenol	9.60	7.20 U	7.20 UJ		ug/l	I

Table of All Qualified Results

Test Method: SW8270	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB9-AUG2020	EB	2,4-Dinitrophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB9-AUG2020	EB	2-Chlorophenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-EB9-AUG2020	EB	2-Methylphenol (o-Cresol)	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-EB9-AUG2020	EB	2-Nitrophenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-EB9-AUG2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB9-AUG2020	EB	4-Chloro-3-methylphenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-EB9-AUG2020	EB	4-Nitrophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB9-AUG2020	EB	Cresols, m- & p-	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-EB9-AUG2020	EB	Pentachlorophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB9-AUG2020	EB	Phenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-EB9-AUG2020	EB	Bis(2-ethylhexyl)phthalate	13.0	13.0 B	13.0 UJ		ug/l	L/I

Test Method: SW8270	Extraction Method: SW3550							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP3-AUG2020	FD	Bis(2-ethylhexyl)phthalate	1500	1500 BL	1500 U		ug/kg	L/C
NHFLA-DUP3-AUG2020	FD	Caprolactam	310	240 UL	240 UJ		ug/kg	C
NHFLA-DUP4-AUG2020	FD	Bis(2-ethylhexyl)phthalate	1400	1400 BL	1400 U		ug/kg	L/C
NHFLA-DUP4-AUG2020	FD	Caprolactam	330	250 UL	250 UJ		ug/kg	C
NHFLA-MW3-A-AUG2020	N	Bis(2-ethylhexyl)phthalate	760	760 BL	760 U		ug/kg	L/C
NHFLA-MW3-A-AUG2020	N	Caprolactam	340	250 UL	250 UJ		ug/kg	C
NHFLA-MW3-B-AUG2020	N	Bis(2-ethylhexyl)phthalate	1000	1000 BL	1000 U		ug/kg	L/C
NHFLA-MW3-B-AUG2020	N	Caprolactam	320	240 UL	240 UJ		ug/kg	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP3-AUG2020	FD	Benzo(a)anthracene	76.0	570	570 J	570	
NHFLA-DUP3-AUG2020	FD	Benzo(a)pyrene	76.0	720	720 J	720	
NHFLA-DUP3-AUG2020	FD	Benzo(b)fluoranthene	76.0	900	900 J	900	
NHFLA-DUP3-AUG2020	FD	Benzo(g,h,i)perylene	76.0	550	550 J	550	
NHFLA-DUP3-AUG2020	FD	Benzo(k)fluoranthene	19.0	280	280 J	280	
NHFLA-DUP3-AUG2020	FD	Chrysene	76.0	660	660 J	660	
NHFLA-DUP3-AUG2020	FD	Dibenz(a,h)anthracene	19.0	130	130 J	130	
NHFLA-DUP3-AUG2020	FD	Fluoranthene	76.0	910	910 J	910	
NHFLA-DUP3-AUG2020	FD	Indeno(1,2,3-c,d)pyrene	19.0	420	420 J	420	
NHFLA-DUP3-AUG2020	FD	Phenanthrene	19.0	350	350 J	350	
NHFLA-DUP3-AUG2020	FD	Pyrene	76.0	1100	1100 J	1100	
NHFLA-DUP4-AUG2020	FD	2-Methylnaphthalene	20.0	2.30 J	2.30 J	2.30 J	TR/D
NHFLA-DUP4-AUG2020	FD	Acenaphthene	20.0	10.0 U	10.0 U	10.0 U	D
NHFLA-DUP4-AUG2020	FD	Anthracene	20.0	22.0 M	22.0 J	22.0 J	M/D
NHFLA-DUP4-AUG2020	FD	Benzo(a)anthracene	20.0	180 MM	180 J	180 J	D/M
NHFLA-DUP4-AUG2020	FD	Benzo(a)pyrene	20.0	200 MM	200 J	200 J	D/M
NHFLA-DUP4-AUG2020	FD	Benzo(b)fluoranthene	20.0	280 MM	280 J	280 J	D/M
NHFLA-DUP4-AUG2020	FD	Benzo(g,h,i)perylene	20.0	140 M	140 J	140 J	M/D
NHFLA-DUP4-AUG2020	FD	Benzo(k)fluoranthene	20.0	100 MM	100 J	100 J	M
NHFLA-DUP4-AUG2020	FD	Chrysene	20.0	200 MM	200 J	200 J	D/M
NHFLA-DUP4-AUG2020	FD	Dibenz(a,h)anthracene	20.0	25.0 M	25.0 J	25.0 J	M/D
NHFLA-DUP4-AUG2020	FD	Fluoranthene	20.0	330 MM	330 J	330 J	M
NHFLA-DUP4-AUG2020	FD	Fluorene	20.0	9.30 J	9.30 J	9.30 J	TR/D
NHFLA-DUP4-AUG2020	FD	Indeno(1,2,3-c,d)pyrene	20.0	140 M	140 J	140 J	M/D
NHFLA-DUP4-AUG2020	FD	Naphthalene	20.0	10.0 U	10.0 U	10.0 U	D
NHFLA-DUP4-AUG2020	FD	Phenanthrene	20.0	160 MM	160 J	160 J	D/M
NHFLA-DUP4-AUG2020	FD	Pyrene	20.0	380 MM	380 J	380 J	M
NHFLA-MW3-B-AUG2020	N	2-Methylnaphthalene	19.0	2.50 J	2.50 J	2.50 J	TR/D
NHFLA-MW3-B-AUG2020	N	Acenaphthene	19.0	9.60 U	9.60 U	9.60 U	D
NHFLA-MW3-B-AUG2020	N	Anthracene	19.0	31.0	31.0 J	31.0 J	M/D
NHFLA-MW3-B-AUG2020	N	Benzo(a)anthracene	19.0	230	230 J	230 J	D/M
NHFLA-MW3-B-AUG2020	N	Benzo(a)pyrene	19.0	250	250 J	250 J	D/M
NHFLA-MW3-B-AUG2020	N	Benzo(b)fluoranthene	19.0	350	350 J	350 J	D/M
NHFLA-MW3-B-AUG2020	N	Benzo(g,h,i)perylene	19.0	150	150 J	150 J	M/D
NHFLA-MW3-B-AUG2020	N	Benzo(k)fluoranthene	19.0	110	110 J	110 J	M
NHFLA-MW3-B-AUG2020	N	Chrysene	19.0	250	250 J	250 J	D/M
NHFLA-MW3-B-AUG2020	N	Dibenz(a,h)anthracene	19.0	47.0	47.0 J	47.0 J	M/D
NHFLA-MW3-B-AUG2020	N	Fluoranthene	19.0	390	390 J	390 J	M
NHFLA-MW3-B-AUG2020	N	Fluorene	19.0	16.0 J	16.0 J	16.0 J	TR/D
NHFLA-MW3-B-AUG2020	N	Indeno(1,2,3-c,d)pyrene	19.0	140	140 J	140 J	M/D
NHFLA-MW3-B-AUG2020	N	Naphthalene	19.0	9.60 U	9.60 U	9.60 U	D

Table of Results with Modified Qualifiers

Modified Qualifiers for test method BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW3-B-AUG2020	N	Phenanthrene	19.0	190	190 J	190 J	D/M
NHFLA-MW3-B-AUG2020	N	Pyrene	19.0	440	440 J	440 J	M

Modified Qualifiers for test method LYDKHN

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP3-AUG2020	FD	Total Organic Carbon	720	37000	37000 J	37000	
NHFLA-DUP4-AUG2020	FD	Total Organic Carbon	950	18000	18000 J	18000 J	M
NHFLA-MW3-A-AUG2020	N	Total Organic Carbon	2000	42000	42000 J	42000	
NHFLA-MW3-B-AUG2020	N	Total Organic Carbon	680	23000	23000 J	23000 J	M

Modified Qualifiers for test method SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP3-AUG2020	FD	Aluminum	33.0	13400	13400	13400 J	D3
NHFLA-DUP3-AUG2020	FD	Barium	0.550	83.2	83.2	83.2 J	D3
NHFLA-DUP3-AUG2020	FD	Chromium	1.10	21.7	21.7	21.7 J	D3
NHFLA-DUP3-AUG2020	FD	Cobalt	1.10	7.14	7.14	7.14 J	D3
NHFLA-DUP3-AUG2020	FD	Lead	0.550	43.2	43.2 J	43.2	
NHFLA-DUP3-AUG2020	FD	Potassium	110	1980	1980	1980 J	D3
NHFLA-DUP3-AUG2020	FD	Vanadium	1.10	25.5	25.5	25.5 J	D3
NHFLA-DUP3-AUG2020	FD	Zinc	2.20	133	133	133 J	D3
NHFLA-DUP4-AUG2020	FD	Arsenic	1.50	10.5 N	10.5	10.5 J	M
NHFLA-DUP4-AUG2020	FD	Lead	0.960	23.0 N	23.0 J	23.0 J	M
NHFLA-MW3-A-AUG2020	N	Aluminum	30.0	7760	7760	7760 J	D3
NHFLA-MW3-A-AUG2020	N	Barium	0.490	49.9	49.9	49.9 J	D3
NHFLA-MW3-A-AUG2020	N	Calcium	49.0	196000	196000	196000 J	D3
NHFLA-MW3-A-AUG2020	N	Chromium	0.990	41.2	41.2	41.2 J	D3
NHFLA-MW3-A-AUG2020	N	Cobalt	0.990	4.17	4.17	4.17 J	D3
NHFLA-MW3-A-AUG2020	N	Potassium	99.0	1180	1180	1180 J	D3
NHFLA-MW3-A-AUG2020	N	Vanadium	0.990	14.7	14.7	14.7 J	D3
NHFLA-MW3-A-AUG2020	N	Zinc	2.00	78.2	78.2	78.2 J	D3
NHFLA-MW3-B-AUG2020	N	Arsenic	0.690	9.20	9.20	9.20 J	M
NHFLA-MW3-B-AUG2020	N	Lead	0.430	21.1	21.1 J	21.1 J	M

Modified Qualifiers for test method SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP3-AUG2020	FD	Chromium, Hexavalent	0.540	0.330 U	0.330 X	0.330 U	
NHFLA-DUP4-AUG2020	FD	Chromium, Hexavalent	0.560	0.340 U	0.340 X	0.340 UJ	M
NHFLA-MW3-A-AUG2020	N	Chromium, Hexavalent	1.10	0.670 U	0.670 X	0.670 U	
NHFLA-MW3-B-AUG2020	N	Chromium, Hexavalent	0.550	0.330 U	0.330 X	0.330 UJ	M

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP3-AUG2020	FD	1,1,1-Trichloroethane	5.10	2.50 U	2.50 UJ	2.50 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP3-AUG2020	FD	1,1,2,2-Tetrachloroethane	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	1,1,2-Trichloro-1,2,2-trifluoroethane	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	1,1,2-Trichloroethane	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	1,1-Dichloroethane	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	1,1-Dichloroethene	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	1,2,3-Trichlorobenzene	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	1,2,4-Trichlorobenzene	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	1,2-Dibromo-3-chloropropane	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	1,2-Dibromoethane (EDB)	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	1,2-Dichlorobenzene	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	1,2-Dichloroethane	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	1,2-Dichloropropane	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	1,3-Dichlorobenzene	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	1,4-Dichlorobenzene	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	2-Butanone (MEK)	25.0	13.0 U	13.0 UJ	13.0 U	
NHFLA-DUP3-AUG2020	FD	2-Hexanone	25.0	13.0 U	13.0 UJ	13.0 U	
NHFLA-DUP3-AUG2020	FD	4-Methyl-2-pentanone (MIBK)	25.0	13.0 U	13.0 UJ	13.0 U	
NHFLA-DUP3-AUG2020	FD	Acetone	25.0	13.0 U	13.0 UJ	13.0 U	
NHFLA-DUP3-AUG2020	FD	Benzene	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	Bromochloromethane	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	Bromodichloromethane	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	Bromoform	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	Bromomethane	10.0	5.10 U	5.10 UJ	5.10 U	
NHFLA-DUP3-AUG2020	FD	Carbon disulfide	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	Carbon tetrachloride	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	Chlorobenzene	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	Chloroethane	10.0	5.10 U	5.10 UJ	5.10 U	
NHFLA-DUP3-AUG2020	FD	Chloroform	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	Chloromethane	10.0	5.10 U	5.10 UJ	5.10 U	
NHFLA-DUP3-AUG2020	FD	cis-1,2-Dichloroethene	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	cis-1,3-Dichloropropene	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	Cyclohexane	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	Dibromochloromethane	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	Dichlorodifluoromethane	10.0	5.10 U	5.10 UJ	5.10 U	
NHFLA-DUP3-AUG2020	FD	Ethylbenzene	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	Isopropylbenzene (Cumene)	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	m,p-Xylene	10.0	5.10 U	5.10 UJ	5.10 U	
NHFLA-DUP3-AUG2020	FD	Methyl acetate	5.10	3.00 U	3.00 UJ	3.00 U	
NHFLA-DUP3-AUG2020	FD	Methyl tert-butyl ether (MTBE)	5.10	2.50 U	2.50 UJ	2.50 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP3-AUG2020	FD	Methylcyclohexane	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	Methylene chloride	25.0	14.0 J	25.0 UJ	25.0 U	L
NHFLA-DUP3-AUG2020	FD	o-Xylene	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	Styrene	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	Tetrachloroethene (PCE)	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	Toluene	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	trans-1,2-Dichloroethene	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	trans-1,3-Dichloropropene	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	Trichloroethene (TCE)	5.10	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP3-AUG2020	FD	Trichlorofluoromethane	10.0	5.10 U	5.10 UJ	5.10 U	
NHFLA-DUP3-AUG2020	FD	Vinyl chloride	10.0	5.10 U	5.10 UJ	5.10 U	
NHFLA-DUP4-AUG2020	FD	1,1,1-Trichloroethane	4.40	2.20 U	2.20 UJ	2.20 U	
NHFLA-DUP4-AUG2020	FD	1,1,2,2-Tetrachloroethane	4.40	2.20 U	2.20 UJ	2.20 U	
NHFLA-DUP4-AUG2020	FD	1,1,2-Trichloro-1,2,2-trifluoroethane	4.40	2.20 U	2.20 UJ	2.20 U	
NHFLA-DUP4-AUG2020	FD	1,1,2-Trichloroethane	4.40	2.20 U	2.20 UJ	2.20 U	
NHFLA-DUP4-AUG2020	FD	1,1-Dichloroethane	4.40	2.20 U	2.20 UJ	2.20 U	
NHFLA-DUP4-AUG2020	FD	1,1-Dichloroethene	4.40	2.20 U	2.20 UJ	2.20 U	
NHFLA-DUP4-AUG2020	FD	1,2,3-Trichlorobenzene	4.40	2.20 UMM	2.20 UJ	2.20 UJ	M/D
NHFLA-DUP4-AUG2020	FD	1,2,4-Trichlorobenzene	4.40	2.20 UMM	2.20 UJ	2.20 UJ	M/D
NHFLA-DUP4-AUG2020	FD	1,2-Dibromo-3-chloropropane	4.40	2.20 U	2.20 UJ	2.20 U	D
NHFLA-DUP4-AUG2020	FD	1,2-Dibromoethane (EDB)	4.40	2.20 U	2.20 UJ	2.20 U	
NHFLA-DUP4-AUG2020	FD	1,2-Dichlorobenzene	4.40	2.20 UMM	2.20 UJ	2.20 UJ	M
NHFLA-DUP4-AUG2020	FD	1,2-Dichloroethane	4.40	2.20 U	2.20 UJ	2.20 U	
NHFLA-DUP4-AUG2020	FD	1,2-Dichloropropane	4.40	2.20 U	2.20 UJ	2.20 U	
NHFLA-DUP4-AUG2020	FD	1,3-Dichlorobenzene	4.40	2.20 UMM	2.20 UJ	2.20 UJ	M/D
NHFLA-DUP4-AUG2020	FD	1,4-Dichlorobenzene	4.40	2.20 UMM	2.20 UJ	2.20 UJ	M
NHFLA-DUP4-AUG2020	FD	2-Butanone (MEK)	22.0	11.0 U	11.0 UJ	11.0 U	
NHFLA-DUP4-AUG2020	FD	2-Hexanone	22.0	11.0 U	11.0 UJ	11.0 U	
NHFLA-DUP4-AUG2020	FD	4-Methyl-2-pentanone (MIBK)	22.0	11.0 U	11.0 UJ	11.0 U	
NHFLA-DUP4-AUG2020	FD	Acetone	22.0	11.0 U	11.0 UJ	11.0 U	
NHFLA-DUP4-AUG2020	FD	Benzene	4.40	2.20 U	2.20 UJ	2.20 U	
NHFLA-DUP4-AUG2020	FD	Bromochloromethane	4.40	2.20 U	2.20 UJ	2.20 U	
NHFLA-DUP4-AUG2020	FD	Bromodichloromethane	4.40	2.20 U	2.20 UJ	2.20 U	
NHFLA-DUP4-AUG2020	FD	Bromoform	4.40	2.20 U	2.20 UJ	2.20 U	D
NHFLA-DUP4-AUG2020	FD	Bromomethane	8.80	4.40 U	4.40 UJ	4.40 U	
NHFLA-DUP4-AUG2020	FD	Carbon disulfide	4.40	2.20 U	2.20 UJ	2.20 U	
NHFLA-DUP4-AUG2020	FD	Carbon tetrachloride	4.40	2.20 U	2.20 UJ	2.20 U	
NHFLA-DUP4-AUG2020	FD	Chlorobenzene	4.40	2.20 UM	2.20 UJ	2.20 UJ	M
NHFLA-DUP4-AUG2020	FD	Chloroethane	8.80	4.40 U	4.40 UJ	4.40 U	
NHFLA-DUP4-AUG2020	FD	Chloroform	4.40	2.20 U	2.20 UJ	2.20 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP4-AUG2020	FD	Chloromethane	8.80	4.40 U	4.40 UJ	4.40 U	
NHFLA-DUP4-AUG2020	FD	cis-1,2-Dichloroethene	4.40	2.20 U	2.20 UJ	2.20 U	
NHFLA-DUP4-AUG2020	FD	cis-1,3-Dichloropropene	4.40	2.20 U	2.20 UJ	2.20 U	
NHFLA-DUP4-AUG2020	FD	Cyclohexane	4.40	2.20 U	2.20 UJ	2.20 U	
NHFLA-DUP4-AUG2020	FD	Dibromochloromethane	4.40	2.20 U	2.20 UJ	2.20 U	
NHFLA-DUP4-AUG2020	FD	Dichlorodifluoromethane	8.80	4.40 U	4.40 UJ	4.40 U	
NHFLA-DUP4-AUG2020	FD	Ethylbenzene	4.40	2.20 U	2.20 UJ	2.20 U	
NHFLA-DUP4-AUG2020	FD	Isopropylbenzene (Cumene)	4.40	2.20 U	2.20 UJ	2.20 U	
NHFLA-DUP4-AUG2020	FD	m,p-Xylene	8.80	4.40 U	4.40 UJ	4.40 U	
NHFLA-DUP4-AUG2020	FD	Methyl acetate	4.40	2.60 U	2.60 UJ	2.60 U	D
NHFLA-DUP4-AUG2020	FD	Methyl tert-butyl ether (MTBE)	4.40	2.20 U	2.20 UJ	2.20 U	
NHFLA-DUP4-AUG2020	FD	Methylcyclohexane	4.40	2.20 U	2.20 UJ	2.20 U	D
NHFLA-DUP4-AUG2020	FD	Methylene chloride	22.0	12.0 J	22.0 UJ	22.0 U	L
NHFLA-DUP4-AUG2020	FD	o-Xylene	4.40	2.20 U	2.20 UJ	2.20 U	
NHFLA-DUP4-AUG2020	FD	Styrene	4.40	2.20 U	2.20 UJ	2.20 U	
NHFLA-DUP4-AUG2020	FD	Tetrachloroethene (PCE)	4.40	2.20 U	2.20 UJ	2.20 U	
NHFLA-DUP4-AUG2020	FD	Toluene	4.40	2.20 U	2.20 UJ	2.20 U	
NHFLA-DUP4-AUG2020	FD	trans-1,2-Dichloroethene	4.40	2.20 U	2.20 UJ	2.20 U	
NHFLA-DUP4-AUG2020	FD	trans-1,3-Dichloropropene	4.40	2.20 U	2.20 UJ	2.20 U	
NHFLA-DUP4-AUG2020	FD	Trichloroethene (TCE)	4.40	2.20 U	2.20 UJ	2.20 U	
NHFLA-DUP4-AUG2020	FD	Trichlorofluoromethane	8.80	4.40 UM	4.40 UJ	4.40 U	
NHFLA-DUP4-AUG2020	FD	Vinyl chloride	8.80	4.40 U	4.40 UJ	4.40 U	
NHFLA-MW3-A-AUG2020	N	1,1,1-Trichloroethane	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	1,1,2,2-Tetrachloroethane	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	1,1,2-Trichloroethane	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	1,1-Dichloroethane	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	1,1-Dichloroethene	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	1,2,3-Trichlorobenzene	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	1,2,4-Trichlorobenzene	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	1,2-Dibromo-3-chloropropane	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	1,2-Dibromoethane (EDB)	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	1,2-Dichlorobenzene	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	1,2-Dichloroethane	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	1,2-Dichloropropane	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	1,3-Dichlorobenzene	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	1,4-Dichlorobenzene	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	2-Butanone (MEK)	21.0	10.0 U	10.0 UJ	10.0 UJ	I
NHFLA-MW3-A-AUG2020	N	2-Hexanone	21.0	10.0 U	10.0 UJ	10.0 UJ	I

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW3-A-AUG2020	N	4-Methyl-2-pentanone (MIBK)	21.0	10.0 U	10.0 UJ	10.0 UJ	I
NHFLA-MW3-A-AUG2020	N	Acetone	21.0	10.0 U	10.0 UJ	10.0 UJ	I
NHFLA-MW3-A-AUG2020	N	Benzene	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	Bromochloromethane	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	Bromodichloromethane	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	Bromoform	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	Bromomethane	8.30	4.20 U	4.20 UJ	4.20 UJ	I
NHFLA-MW3-A-AUG2020	N	Carbon disulfide	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	Carbon tetrachloride	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	Chlorobenzene	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	Chloroethane	8.30	4.20 U	4.20 UJ	4.20 UJ	I
NHFLA-MW3-A-AUG2020	N	Chloroform	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	Chloromethane	8.30	4.20 U	4.20 UJ	4.20 UJ	I
NHFLA-MW3-A-AUG2020	N	cis-1,2-Dichloroethene	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	cis-1,3-Dichloropropene	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	Cyclohexane	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	Dibromochloromethane	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	Dichlorodifluoromethane	8.30	4.20 U	4.20 UJ	4.20 UJ	I
NHFLA-MW3-A-AUG2020	N	Ethylbenzene	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	Isopropylbenzene (Cumene)	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	m,p-Xylene	8.30	4.20 U	4.20 UJ	4.20 UJ	I
NHFLA-MW3-A-AUG2020	N	Methyl acetate	4.20	2.50 U	2.50 UJ	2.50 UJ	I
NHFLA-MW3-A-AUG2020	N	Methyl tert-butyl ether (MTBE)	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	Methylcyclohexane	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	Methylene chloride	21.0	13.0 J	21.0 UJ	21.0 UJ	L/I
NHFLA-MW3-A-AUG2020	N	o-Xylene	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	Styrene	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	Tetrachloroethene (PCE)	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	Toluene	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	trans-1,2-Dichloroethene	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	trans-1,3-Dichloropropene	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	Trichloroethene (TCE)	4.20	2.10 U	2.10 UJ	2.10 UJ	I
NHFLA-MW3-A-AUG2020	N	Trichlorofluoromethane	8.30	4.20 U	4.20 UJ	4.20 UJ	I
NHFLA-MW3-A-AUG2020	N	Vinyl chloride	8.30	4.20 U	4.20 UJ	4.20 UJ	I
NHFLA-MW3-B-AUG2020	N	1,1,1-Trichloroethane	5.00	2.50 U	2.50 UJ	2.50 UJ	I
NHFLA-MW3-B-AUG2020	N	1,1,2,2-Tetrachloroethane	5.00	2.50 U	2.50 UJ	2.50 UJ	I
NHFLA-MW3-B-AUG2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	5.00	2.50 U	2.50 UJ	2.50 UJ	I
NHFLA-MW3-B-AUG2020	N	1,1,2-Trichloroethane	5.00	2.50 U	2.50 UJ	2.50 UJ	I
NHFLA-MW3-B-AUG2020	N	1,1-Dichloroethane	5.00	2.50 U	2.50 UJ	2.50 UJ	I

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW3-B-AUG2020	N	1,1-Dichloroethene	5.00	2.50 U	2.50 UJ	2.50 UJ	I
NHFLA-MW3-B-AUG2020	N	1,2,3-Trichlorobenzene	5.00	2.50 U	2.50 UJ	2.50 UJ	M/D/I
NHFLA-MW3-B-AUG2020	N	1,2,4-Trichlorobenzene	5.00	2.50 U	2.50 UJ	2.50 UJ	M/D/I
NHFLA-MW3-B-AUG2020	N	1,2-Dibromo-3-chloropropane	5.00	2.50 U	2.50 UJ	2.50 UJ	D/I
NHFLA-MW3-B-AUG2020	N	1,2-Dibromoethane (EDB)	5.00	2.50 U	2.50 UJ	2.50 UJ	I
NHFLA-MW3-B-AUG2020	N	1,2-Dichlorobenzene	5.00	2.50 U	2.50 UJ	2.50 UJ	M/I
NHFLA-MW3-B-AUG2020	N	1,2-Dichloroethane	5.00	2.50 U	2.50 UJ	2.50 UJ	I
NHFLA-MW3-B-AUG2020	N	1,2-Dichloropropane	5.00	2.50 U	2.50 UJ	2.50 UJ	I
NHFLA-MW3-B-AUG2020	N	1,3-Dichlorobenzene	5.00	2.50 U	2.50 UJ	2.50 UJ	M/D/I
NHFLA-MW3-B-AUG2020	N	1,4-Dichlorobenzene	5.00	2.50 U	2.50 UJ	2.50 UJ	M/I
NHFLA-MW3-B-AUG2020	N	2-Butanone (MEK)	25.0	12.0 U	12.0 UJ	12.0 UJ	I
NHFLA-MW3-B-AUG2020	N	2-Hexanone	25.0	12.0 U	12.0 UJ	12.0 UJ	I
NHFLA-MW3-B-AUG2020	N	4-Methyl-2-pentanone (MIBK)	25.0	12.0 U	12.0 UJ	12.0 UJ	I
NHFLA-MW3-B-AUG2020	N	Acetone	25.0	12.0 U	12.0 UJ	12.0 UJ	I
NHFLA-MW3-B-AUG2020	N	Benzene	5.00	2.50 U	2.50 UJ	2.50 UJ	I
NHFLA-MW3-B-AUG2020	N	Bromochloromethane	5.00	2.50 U	2.50 UJ	2.50 UJ	I
NHFLA-MW3-B-AUG2020	N	Bromodichloromethane	5.00	2.50 U	2.50 UJ	2.50 UJ	I
NHFLA-MW3-B-AUG2020	N	Bromoform	5.00	2.50 U	2.50 UJ	2.50 UJ	I
NHFLA-MW3-B-AUG2020	N	Bromomethane	10.0	5.00 U	5.00 UJ	5.00 UJ	I
NHFLA-MW3-B-AUG2020	N	Carbon disulfide	5.00	2.50 U	2.50 UJ	2.50 UJ	I
NHFLA-MW3-B-AUG2020	N	Carbon tetrachloride	5.00	2.50 U	2.50 UJ	2.50 UJ	I
NHFLA-MW3-B-AUG2020	N	Chlorobenzene	5.00	2.50 U	2.50 UJ	2.50 UJ	M/I
NHFLA-MW3-B-AUG2020	N	Chloroethane	10.0	5.00 U	5.00 UJ	5.00 UJ	I
NHFLA-MW3-B-AUG2020	N	Chloroform	5.00	2.50 U	2.50 UJ	2.50 UJ	I
NHFLA-MW3-B-AUG2020	N	Chloromethane	10.0	5.00 U	5.00 UJ	5.00 UJ	I
NHFLA-MW3-B-AUG2020	N	cis-1,2-Dichloroethene	5.00	2.50 U	2.50 UJ	2.50 UJ	I
NHFLA-MW3-B-AUG2020	N	cis-1,3-Dichloropropene	5.00	2.50 U	2.50 UJ	2.50 UJ	I
NHFLA-MW3-B-AUG2020	N	Cyclohexane	5.00	2.50 U	2.50 UJ	2.50 UJ	I
NHFLA-MW3-B-AUG2020	N	Dibromochloromethane	5.00	2.50 U	2.50 UJ	2.50 UJ	I
NHFLA-MW3-B-AUG2020	N	Dichlorodifluoromethane	10.0	5.00 U	5.00 UJ	5.00 UJ	I
NHFLA-MW3-B-AUG2020	N	Ethylbenzene	5.00	2.50 U	2.50 UJ	2.50 UJ	I
NHFLA-MW3-B-AUG2020	N	Isopropylbenzene (Cumene)	5.00	2.50 U	2.50 UJ	2.50 UJ	I
NHFLA-MW3-B-AUG2020	N	m,p-Xylene	10.0	5.00 U	5.00 UJ	5.00 UJ	I
NHFLA-MW3-B-AUG2020	N	Methyl acetate	5.00	3.00 U	3.00 UJ	3.00 UJ	D/I
NHFLA-MW3-B-AUG2020	N	Methyl tert-butyl ether (MTBE)	5.00	2.50 U	2.50 UJ	2.50 UJ	I
NHFLA-MW3-B-AUG2020	N	Methylcyclohexane	5.00	2.50 U	2.50 UJ	2.50 UJ	D/I
NHFLA-MW3-B-AUG2020	N	Methylene chloride	25.0	20.0 J	25.0 UJ	25.0 UJ	L/I
NHFLA-MW3-B-AUG2020	N	o-Xylene	5.00	2.50 U	2.50 UJ	2.50 UJ	I
NHFLA-MW3-B-AUG2020	N	Styrene	5.00	2.50 U	2.50 UJ	2.50 UJ	I

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW3-B-AUG2020	N	Tetrachloroethene (PCE)	5.00	2.50 U	2.50 UJ	2.50 UJ	I
NHFLA-MW3-B-AUG2020	N	Toluene	5.00	2.50 U	2.50 UJ	2.50 UJ	I
NHFLA-MW3-B-AUG2020	N	trans-1,2-Dichloroethene	5.00	2.50 U	2.50 UJ	2.50 UJ	I
NHFLA-MW3-B-AUG2020	N	trans-1,3-Dichloropropene	5.00	2.50 U	2.50 UJ	2.50 UJ	I
NHFLA-MW3-B-AUG2020	N	Trichloroethene (TCE)	5.00	2.50 U	2.50 UJ	2.50 UJ	I
NHFLA-MW3-B-AUG2020	N	Trichlorofluoromethane	10.0	5.00 U	5.00 UJ	5.00 UJ	I
NHFLA-MW3-B-AUG2020	N	Vinyl chloride	10.0	5.00 U	5.00 UJ	5.00 UJ	I

Modified Qualifiers for test method SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB9-AUG2020	EB	1,2,4,5-Tetrachlorobenzene	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB9-AUG2020	EB	1,4-Dioxane (p-Dioxane)	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB9-AUG2020	EB	2,2'-Oxybis(1-chloropropane)	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB9-AUG2020	EB	2,4-Dinitrotoluene	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB9-AUG2020	EB	2,6-Dinitrotoluene	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB9-AUG2020	EB	2-Chloronaphthalene	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB9-AUG2020	EB	2-Nitroaniline	24.0	18.0 U	18.0 UJ	18.0 U	
NHFLA-EB9-AUG2020	EB	3,3'-Dichlorobenzidine	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB9-AUG2020	EB	3-Nitroaniline	24.0	18.0 U	18.0 UJ	18.0 U	
NHFLA-EB9-AUG2020	EB	4-Bromophenyl phenyl ether	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB9-AUG2020	EB	4-Chloroaniline	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB9-AUG2020	EB	4-Chlorophenyl phenyl ether	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB9-AUG2020	EB	4-Nitroaniline	24.0	18.0 U	18.0 UJ	18.0 U	
NHFLA-EB9-AUG2020	EB	Acetophenone	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB9-AUG2020	EB	Atrazine	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB9-AUG2020	EB	Benzaldehyde	9.60	7.20 UL	7.20 UJ	7.20 U	
NHFLA-EB9-AUG2020	EB	Benzyl butyl phthalate	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB9-AUG2020	EB	Biphenyl (Diphenyl)	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB9-AUG2020	EB	Bis(2-chloroethoxy)methane	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB9-AUG2020	EB	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB9-AUG2020	EB	Bis(2-ethylhexyl)phthalate	13.0	13.0 B	13.0 J	13.0 UJ	L/I
NHFLA-EB9-AUG2020	EB	Caprolactam	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB9-AUG2020	EB	Carbazole	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB9-AUG2020	EB	Dibenzofuran	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB9-AUG2020	EB	Diethyl phthalate	9.60	4.40 J	4.40 J	4.40 J	TR
NHFLA-EB9-AUG2020	EB	Dimethyl phthalate	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB9-AUG2020	EB	Di-n-butyl phthalate	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB9-AUG2020	EB	di-n-Octyl phthalate	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB9-AUG2020	EB	Hexachlorobenzene	9.60	7.20 U	7.20 UJ	7.20 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB9-AUG2020	EB	Hexachlorobutadiene	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB9-AUG2020	EB	Hexachlorocyclopentadiene	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB9-AUG2020	EB	Hexachloroethane	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB9-AUG2020	EB	Isophorone	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB9-AUG2020	EB	Nitrobenzene	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB9-AUG2020	EB	N-Nitrosodi-n-propylamine	9.60	7.20 U	7.20 UJ	7.20 U	
NHFLA-EB9-AUG2020	EB	N-Nitrosodiphenylamine	9.60	7.20 U	7.20 UJ	7.20 U	

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP3-AUG2020	FD	Bis(2-ethylhexyl)phthalate	1500	1500 BL	1500 J	1500 U	L/C
NHFLA-DUP4-AUG2020	FD	Bis(2-ethylhexyl)phthalate	1400	1400 BL	1400 J	1400 U	L/C
NHFLA-MW3-A-AUG2020	N	Bis(2-ethylhexyl)phthalate	760	760 BL	760 J	760 U	L/C
NHFLA-MW3-B-AUG2020	N	Bis(2-ethylhexyl)phthalate	1000	1000 BL	1000 J	1000 U	L/C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

			Location ID	NHFLA-MW3	
			Field sample ID	NHFLA-MS3-	NHFLA-MW3-
			Lab Sample ID	WG286124-3	SN7314-2
			Sample Type	MS	Parent
			Sample Date	8/31/20	8/31/20
			Analysis Information	25X	1.2X
SN7314					
Chromium, Hexavalent (Colorimetric) (SW7196/SW3060)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**		
Chromium, Hexavalent (mg/kg)	84-110	20	83.2	0.550 UJ	

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-MW3			
	Field sample ID		NHFLA-MS3-	NHFLA-MSD3-AUG2020		NHFLA-MW3-
	Lab Sample ID		WG285464-4	WG285464-5		SN7314-2
	Sample Type		MS	MSD		Parent
	Sample Date		8/31/20	8/31/20		8/31/20
	Analysis Information		1X	1X		1X
SN7314						
GC/MS-SIM Analysis by SW8270 (BNASIM/SW3550)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	
2-Methylnaphthalene (µg/kg)	39-114	20	66.2	53.4	22.2	2.50 J
Acenaphthene (µg/kg)	44-111	20	95.8	59.7	48.6	19.0 U
Acenaphthylene (µg/kg)	39-116	20	58.3	58.2	2.41	19.0 U
Anthracene (µg/kg)	50-114	20	125	87.9	25.6	**31.0 J**
Benzo(a)anthracene (µg/kg)	54-122	20	364	833	25.4	**230 J**
Benzo(a)pyrene (µg/kg)	50-125	20	318	735	22.2	**250 J**
Benzo(b)fluoranthene (µg/kg)	53-128	20	2500	47500	29.8	**350 J**
Benzo(g,h,i)perylene (µg/kg)	49-127	20	96.8	182	21.3	**150 J**
Benzo(k)fluoranthene (µg/kg)	56-123	20	145	166	4.88	**110 J**
Chrysene (µg/kg)	57-118	20	227	637	23.5	**250 J**
Dibenz(a,h)anthracene (µg/kg)	50-129	20	146	72.3	37.6	**47.0 J**
Fluoranthene (µg/kg)	55-119	20	1670	1730	3.45	**390 J**
Fluorene (µg/kg)	47-114	20	113	61.2	48.3	16.0 J
Indeno(1,2,3-c,d)pyrene (µg/kg)	49-130	20	83.3	-131	123	**140 J**
Naphthalene (µg/kg)	38-111	20	76.4	55.4	34.0	19.0 U
Phenanthrene (µg/kg)	49-113	20	762	297	48.8	**190 J**

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Matrix Spike/Matrix Spike Duplicate Data Summary

Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

			Location ID	NHFLA-MW3		
			Field sample ID	NHFLA-MS3-	NHFLA-MSD3-AUG2020	NHFLA-MW3-
			Lab Sample ID	WG285464-4	WG285464-5	SN7314-2
			Sample Type	MS	MSD	Parent
			Sample Date	8/31/20	8/31/20	8/31/20
			Analysis Information	1X	1X	1X
GC/MS-SIM Analysis by SW8270 (BNASIM/SW3550)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	
Pyrene (µg/kg)	55-117	20	1750	2690	10.2	**440 J**

Notes:

Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Matrix Spike/Matrix Spike Duplicate Data Summary

Multiple Events

C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		**NHFLA-MW3**			
	Field sample ID		**NHFLA-MS3-**	**NHFLA-MSD3-AUG2020**		**NHFLA-MW3-**
	Lab Sample ID		WG285821-4	WG285821-5		SN7314-2
	Sample Type		MS	MSD		Parent
	Sample Date		8/31/20	8/31/20		8/31/20
	Analysis Information		1X	1X		1X
SN7314						
Lloyd Kahn Method for the Determination of Total Organic Carbon in Sediment, USEPA Region II Method (LYDKHN/METHOD)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	
Total Organic Carbon (µg/g)	75-125	30	-40.4	11.8	13.3	**23000 J**

Notes:

Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.

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µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Matrix Spike/Matrix Spike Duplicate Data Summary

Multiple Events

C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		**NHFLA-MW3**			
	Field sample ID		**NHFLA-MS3-**	**NHFLA-MSD3-AUG2020**		**NHFLA-MW3-**
	Lab Sample ID		SN7314-004S	SN7314-004P		SN7314-2
	Sample Type		MS	MSD		Parent
	Sample Date		8/31/20	8/31/20		8/31/20
	Analysis Information		1X	1X		1X
SN7314						
Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique) (SW7471/METHOD)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	
Mercury (mg/kg)	80-124	20	85.1	78.5	6.06	**0.0450 J**

Notes:

Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.

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%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Matrix Spike/Matrix Spike Duplicate Data Summary

Multiple Events

C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID	NHFLA-MW3			
	Field sample ID	NHFLA-MS3-	NHFLA-MSD3-AUG2020		NHFLA-MW3-
	Lab Sample ID	WG285465-4	WG285465-5		SN7314-2
	Sample Type	MS	MSD		Parent
	Sample Date	8/31/20	8/31/20		8/31/20
	Analysis Information	1X	1X		1X
SN7314					
Semivolatile Organic Compounds by Capillary GC/MS (SW8270/SW3550)	**Recovery Limit** / **RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	
1,2,4,5-Tetrachlorobenzene (µg/kg)	37-119 / 20	56.5	53.8	0.00	320 U
1,4-Dioxane (p-Dioxane) (µg/kg)	10-70 / 20	18.1	21.0	19.7	320 U
2,2'-Oxybis(1-chloropropane) (µg/kg)	33-131 / 20	41.2	40.9	4.03	320 U
2,4,5-Trichlorophenol (µg/kg)	41-124 / 20	65.2	67.0	8.33	780 U
2,4,6-Trichlorophenol (µg/kg)	39-126 / 20	68.0	61.7	4.26	320 U
2,4-Dichlorophenol (µg/kg)	40-122 / 20	65.2	61.7	0.00	320 U
2,4-Dimethylphenol (µg/kg)	30-127 / 20	51.0	45.6	5.71	320 U
2,4-Dinitrophenol (µg/kg)	17-77 / 20	23.2	24.7	11.5	780 U
2,4-Dinitrotoluene (µg/kg)	48-126 / 20	67.8	64.5	0.00	320 U
2,6-Dinitrotoluene (µg/kg)	46-124 / 20	67.8	64.5	0.00	320 U
2-Chloronaphthalene (µg/kg)	41-114 / 20	52.5	50.5	1.07	320 U
2-Chlorophenol (µg/kg)	34-121 / 20	56.7	56.3	4.88	320 U
2-Methylphenol (o-Cresol) (µg/kg)	32-122 / 20	62.3	59.0	0.00	320 U
2-Nitroaniline (µg/kg)	44-127 / 20	67.8	59.1	8.70	780 U
2-Nitrophenol (µg/kg)	36-123 / 20	56.7	53.6	0.00	320 U
3,3'-Dichlorobenzidine (µg/kg)	22-121 / 20	67.8	53.8	18.2	320 U

Notes:

Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.

Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID	NHFLA-MW3			
	Field sample ID	NHFLA-MS3-	NHFLA-MSD3-AUG2020		NHFLA-MW3-
	Lab Sample ID	WG285465-4	WG285465-5		SN7314-2
	Sample Type	MS	MSD		Parent
	Sample Date	8/31/20	8/31/20		8/31/20
	Analysis Information	1X	1X		1X
Semivolatile Organic Compounds by Capillary GC/MS (SW8270/SW3550)	**Recovery Limit** / **RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	
3-Nitroaniline (µg/kg)	33-119 / 20	44.6	39.8	6.54	780 U
4,6-Dinitro-2-methylphenol (µg/kg)	29-132 / 20	42.5	40.2	0.00	780 U
4-Bromophenyl phenyl ether (µg/kg)	46-124 / 20	79.1	69.9	7.41	320 U
4-Chloro-3-methylphenol (µg/kg)	45-122 / 20	70.8	67.0	0.00	320 U
4-Chloroaniline (µg/kg)	17-106 / 20	24.9	20.4	14.6	320 U
4-Chlorophenyl phenyl ether (µg/kg)	45-121 / 20	67.8	64.5	0.00	320 U
4-Nitroaniline (µg/kg)	14-82 / 20	53.7	48.4	5.41	780 U
4-Nitrophenol (µg/kg)	30-132 / 20	68.0	61.7	4.26	780 U
Acetophenone (µg/kg)	33-115 / 20	53.7	52.7	3.11	320 U
Atrazine (µg/kg)	47-127 / 20	90.4	80.6	6.45	320 U
Benzaldehyde (µg/kg)	10-34 / 20	215	226	10.0	320 U
Benzyl butyl phthalate (µg/kg)	48-132 / 20	90.4	80.6	6.45	320 U
Biphenyl (Diphenyl) (µg/kg)	40-117 / 20	67.8	64.5	0.00	320 U
Bis(2-chloroethoxy)methane (µg/kg)	36-121 / 20	53.7	50.5	1.06	320 U
Bis(2-chloroethyl) ether (2-Chloroethyl ether) (µg/kg)	31-120 / 20	54.8	53.8	3.05	320 U
Bis(2-ethylhexyl)phthalate (µg/kg)	51-133 / 20	82.0	82.8	3.77	1000 U
Caprolactam (µg/kg)	46-117 / 20	67.8	64.5	0.00	320 UJ

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
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µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

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J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID	NHFLA-MW3			
	Field sample ID	NHFLA-MS3-	NHFLA-MSD3-AUG2020		NHFLA-MW3-
	Lab Sample ID	WG285465-4	WG285465-5		SN7314-2
	Sample Type	MS	MSD		Parent
	Sample Date	8/31/20	8/31/20		8/31/20
	Analysis Information	1X	1X		1X
Semivolatile Organic Compounds by Capillary GC/MS (SW8270/SW3550)	**Recovery Limit** / **RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	
Carbazole (µg/kg)	50-123 / 20	62.1	69.9	16.7	320 U
Cresols, m- & p- (µg/kg)	34-119 / 20	62.3	61.7	4.44	320 U
Dibenzofuran (µg/kg)	44-120 / 20	67.8	75.3	15.4	320 U
Diethyl phthalate (µg/kg)	50-124 / 20	73.4	69.9	0.00	320 U
Dimethyl phthalate (µg/kg)	48-124 / 20	67.8	64.5	0.00	320 U
Di-n-butyl phthalate (µg/kg)	51-128 / 20	73.4	69.9	0.00	320 U
di-n-Octyl phthalate (µg/kg)	45-140 / 20	79.1	69.9	7.41	320 U
Hexachlorobenzene (µg/kg)	45-122 / 20	67.8	64.5	0.00	320 U
Hexachlorobutadiene (µg/kg)	32-123 / 20	49.7	48.4	2.25	320 U
Hexachlorocyclopentadiene (µg/kg)	10-70 / 20	14.1	14.5	7.69	320 U
Hexachloroethane (µg/kg)	28-117 / 20	44.6	47.3	10.8	320 U
Isophorone (µg/kg)	30-122 / 20	54.2	53.2	3.08	320 U
Nitrobenzene (µg/kg)	34-122 / 20	55.4	53.8	2.02	320 U
N-Nitrosodi-n-propylamine (µg/kg)	36-120 / 20	56.5	59.1	9.52	320 U
N-Nitrosodiphenylamine (µg/kg)	38-127 / 20	62.1	59.1	0.00	320 U
Pentachlorophenol (µg/kg)	25-133 / 20	56.7	50.9	5.13	780 U
Phenol (µg/kg)	34-121 / 20	59.5	59.0	4.65	320 U

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
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Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-MW3							
	Field sample ID		NHFLA-MS3-AUG2020		NHFLA-MSD3-AUG2020				NHFLA-MW3-B-AUG2020	
	Lab Sample ID		SN7314-004S	SN7314-004S	SN7314-004P	SN7314-004P			SN7314-2	SN7314-2
	Sample Type		MS	MS	MSD	MSD			Parent	Parent
	Sample Date		8/31/20	8/31/20	8/31/20	8/31/20			8/31/20	8/31/20
	Analysis Information		1X	2X	1X	2X	1X	2X	1X	2X
SN7314										
Trace Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry (SW6010/SW3050)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MS Percent Recovery**	**MSD Percent Recovery**	**MSD Percent Recovery**	**RPD**	**RPD**		
Aluminum (mg/kg)	74-119	20	1150	-	231	-	22.9	-	**13000 J**	-
Antimony (mg/kg)	79-114	20	-	29.9	-	25.9	-	14.1	0.250 J	-
Arsenic (mg/kg)	82-111	20	-	86.3	-	83.3	-	2.17	**9.20 J**	-
Barium (mg/kg)	83-113	20	110	-	86.9	-	18.2	-	**67.4**	-
Beryllium (mg/kg)	83-113	20	88.5	-	86.1	-	3.06	-	**0.687**	-
Cadmium (mg/kg)	82-113	20	-	91.4	-	92.6	-	0.449	0.240 J	-
Calcium (mg/kg)	81-116	20	73.0	-	43.3	-	19.4	-	-	**56200 J**
Chromium (mg/kg)	85-113	20	-	123	-	107	-	8.43	**16.8 J**	-
Cobalt (mg/kg)	85-112	20	-	92.1	-	94.7	-	1.66	**8.85**	-
Copper (mg/kg)	81-117	20	-	77.7	-	92.6	-	8.21	**26.8 J**	-
Iron (mg/kg)	81-118	20	-	60.6	-	28.8	-	8.55	**21600 J**	-
Lead (mg/kg)	81-112	20	-	107	-	164	-	17.5	**21.1 J**	-
Magnesium (mg/kg)	78-115	20	-	357	-	301	-	2.94	**7110**	-
Manganese (mg/kg)	84-114	20	-	653	-	1400	-	5.41	**525**	-
Nickel (mg/kg)	83-113	20	-	78.5	-	85.1	-	4.50	**28.9 J**	-
Potassium (mg/kg)	81-116	20	219	-	115	-	29.6	-	**1710 J**	-

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

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%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
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RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-MW3							
	Field sample ID		NHFLA-MS3-AUG2020		NHFLA-MSD3-AUG2020				NHFLA-MW3-B-AUG2020	
	Lab Sample ID		SN7314-004S	SN7314-004S	SN7314-004P	SN7314-004P			SN7314-2	SN7314-2
	Sample Type		MS	MS	MSD	MSD			Parent	Parent
	Sample Date		8/31/20	8/31/20	8/31/20	8/31/20			8/31/20	8/31/20
	Analysis Information		1X	2X	1X	2X	1X	2X	1X	2X
Trace Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry (SW6010/SW3050)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MS Percent Recovery**	**MSD Percent Recovery**	**MSD Percent Recovery**	**RPD**	**RPD**		
Selenium (mg/kg)	78-111	20	-	94.1	-	91.4	-	3.46	0.610 J	-
Silver (mg/kg)	82-112	20	-	95.2	-	96.3	-	0.424	0.870 U	-
Sodium (mg/kg)	83-118	20	102	-	93.2	-	8.01	-	**142**	-
Thallium (mg/kg)	83-111	20	-	92.9	-	93.4	-	0.219	1.30 U	-
Vanadium (mg/kg)	82-114	20	-	116	-	97.9	-	11.6	**27.0 J**	-
Zinc (mg/kg)	82-113	20	67.8	-	68.3	-	0.00	-	**97.2 J**	-

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Matrix Spike/Matrix Spike Duplicate Data Summary

Multiple Events

C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID	NHFLA-MW3			
	Field sample ID	NHFLA-MS3-	NHFLA-MSD3-AUG2020		NHFLA-MW3-
	Lab Sample ID	WG286120-6	WG286120-7		SN7314-2
	Sample Type	MS	MSD		Parent
	Sample Date	8/31/20	8/31/20		8/31/20
	Analysis Information	1X	1X		1X
SN7314					
Volatile Organic Compounds by GC/MS (SW8260/SW5035)	**Recovery Limit** / **RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	
1,1,1-Trichloroethane (µg/kg)	73-130 / 20	106	109	12.8	5.00 UJ
1,1,2,2-Tetrachloroethane (µg/kg)	70-124 / 20	81.3	84.9	14.3	5.00 UJ
1,1,2-Trichloro-1,2,2-trifluoroethane (µg/kg)	66-136 / 20	117	126	17.9	5.00 UJ
1,1,2-Trichloroethane (µg/kg)	78-121 / 20	89.6	92.5	13.0	5.00 UJ
1,1-Dichloroethane (µg/kg)	76-125 / 20	115	119	13.6	5.00 UJ
1,1-Dichloroethene (µg/kg)	70-131 / 20	123	125	11.2	5.00 UJ
1,2,3-Trichlorobenzene (µg/kg)	66-130 / 20	54.2	64.2	26.7	5.00 UJ
1,2,4-Trichlorobenzene (µg/kg)	67-129 / 20	54.2	66.0	29.5	5.00 UJ
1,2-Dibromo-3-chloropropane (µg/kg)	61-132 / 20	68.8	79.2	24.0	5.00 UJ
1,2-Dibromoethane (EDB) (µg/kg)	78-122 / 20	83.3	86.8	14.0	5.00 UJ
1,2-Dichlorobenzene (µg/kg)	78-121 / 20	66.7	73.6	19.7	5.00 UJ
1,2-Dichloroethane (µg/kg)	73-128 / 20	95.8	100	14.1	5.00 UJ
1,2-Dichloropropane (µg/kg)	76-123 / 20	93.8	94.3	10.5	5.00 UJ
1,3-Dichlorobenzene (µg/kg)	77-121 / 20	66.7	75.5	22.2	5.00 UJ
1,4-Dichlorobenzene (µg/kg)	75-120 / 20	66.7	73.6	19.7	5.00 UJ
2-Butanone (MEK) (µg/kg)	51-148 / 20	89.6	94.3	15.1	25.0 UJ

Notes:

Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.

Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-MW3			
	Field sample ID		NHFLA-MS3-	NHFLA-MSD3-AUG2020		NHFLA-MW3-
	Lab Sample ID		WG286120-6	WG286120-7		SN7314-2
	Sample Type		MS	MSD		Parent
	Sample Date		8/31/20	8/31/20		8/31/20
	Analysis Information		1X	1X		1X
Volatile Organic Compounds by GC/MS (SW8260/SW5035)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	
2-Hexanone (µg/kg)	53-145	20	68.8	79.2	24.0	25.0 UJ
4-Methyl-2-pentanone (MIBK) (µg/kg)	65-135	20	83.3	90.6	18.2	25.0 UJ
Acetone (µg/kg)	36-164	20	115	115	10.3	25.0 UJ
Benzene (µg/kg)	77-121	20	89.6	92.5	13.0	5.00 UJ
Bromochloromethane (µg/kg)	78-125	20	93.8	96.2	12.5	5.00 UJ
Bromodichloromethane (µg/kg)	75-127	20	97.9	100	12.0	5.00 UJ
Bromoform (µg/kg)	67-132	20	72.9	81.1	20.5	5.00 UJ
Bromomethane (µg/kg)	53-143	20	135	130	5.97	10.0 UJ
Carbon disulfide (µg/kg)	63-132	20	117	121	13.3	5.00 UJ
Carbon tetrachloride (µg/kg)	70-135	20	95.8	98.1	12.2	5.00 UJ
Chlorobenzene (µg/kg)	79-120	20	77.1	83.0	17.3	5.00 UJ
Chloroethane (µg/kg)	59-139	20	123	121	8.13	10.0 UJ
Chloroform (µg/kg)	78-123	20	104	106	11.3	5.00 UJ
Chloromethane (µg/kg)	50-136	20	89.6	92.5	13.0	10.0 UJ
cis-1,2-Dichloroethene (µg/kg)	77-123	20	95.8	102	16.0	5.00 UJ
cis-1,3-Dichloropropene (µg/kg)	74-126	20	81.3	86.8	16.5	5.00 UJ
Cyclohexane (µg/kg)	67-131	20	102	104	11.5	5.00 UJ

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-MW3			
	Field sample ID		NHFLA-MS3-	NHFLA-MSD3-AUG2020		NHFLA-MW3-
	Lab Sample ID		WG286120-6	WG286120-7		SN7314-2
	Sample Type		MS	MSD		Parent
	Sample Date		8/31/20	8/31/20		8/31/20
	Analysis Information		1X	1X		1X
Volatile Organic Compounds by GC/MS (SW8260/SW5035)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	
Dibromochloromethane (µg/kg)	74-126	20	85.4	90.6	15.7	5.00 UJ
Dichlorodifluoromethane (µg/kg)	29-149	20	72.9	75.5	13.3	10.0 UJ
Ethylbenzene (µg/kg)	76-122	20	81.3	86.8	16.5	5.00 UJ
Isopropylbenzene (Cumene) (µg/kg)	68-134	20	79.2	84.9	16.9	5.00 UJ
m,p-Xylene (µg/kg)	77-124	20	85.3	89.1	19.0	10.0 UJ
Methyl acetate (µg/kg)	53-144	20	91.7	106	24.0	5.00 UJ
Methyl tert-butyl ether (MTBE) (µg/kg)	73-125	20	115	115	10.3	5.00 UJ
Methylcyclohexane (µg/kg)	66-133	20	87.5	100	23.2	5.00 UJ
Methylene chloride (µg/kg)	70-128	20	91.7	96.9	13.6	25.0 UJ
o-Xylene (µg/kg)	77-123	20	81.3	88.7	18.6	5.00 UJ
Styrene (µg/kg)	76-124	20	77.1	84.9	19.5	5.00 UJ
Tetrachloroethene (PCE) (µg/kg)	73-128	20	77.1	83.0	17.3	5.00 UJ
Toluene (µg/kg)	77-121	20	87.5	90.6	13.3	5.00 UJ
trans-1,2-Dichloroethene (µg/kg)	74-125	20	121	121	9.84	5.00 UJ
trans-1,3-Dichloropropene (µg/kg)	71-130	20	85.4	92.5	17.8	5.00 UJ
Trichloroethene (TCE) (µg/kg)	77-123	20	91.7	92.5	10.8	5.00 UJ
Trichlorofluoromethane (µg/kg)	62-140	20	142	138	7.09	10.0 UJ

Notes:
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ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
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Matrix Spike/Matrix Spike Duplicate Data Summary

Multiple Events

C02NY0079-02, Nike BU 51/52, Launch Area

		Location ID	**NHFLA-MW3**			
		Field sample ID	**NHFLA-MS3-**	**NHFLA-MSD3-AUG2020**		**NHFLA-MW3-**
		Lab Sample ID	WG286120-6	WG286120-7		SN7314-2
		Sample Type	MS	MSD		Parent
		Sample Date	8/31/20	8/31/20		8/31/20
		Analysis Information	1X	1X		1X
Volatile Organic Compounds by GC/MS (SW8260/SW5035)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	
Vinyl chloride (µg/kg)	56-135	20	106	106	9.35	10.0 UJ

Notes:

Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.

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µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7314

Location	Analysis
NHFLA-MW3	BNASIM

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	2-Methylnaphthalene	2.50	2.30	19.0	8.33	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	2-Methylnaphthalene	3.90	4.20	20.0	7.41	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Acenaphthene	ND	ND	19.0	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Acenaphthene	10.0	10.0	20.0	0.00	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Acenaphthylene	ND	ND	19.0	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Acenaphthylene	ND	ND	20.0	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Anthracene	31.0	22.0	19.0	34.0	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Anthracene	54.0	60.0	20.0	10.5	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Benzo(a)anthracene	230	180	19.0	24.4	50	OK	NA
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Benzo(a)anthracene	460	570	20.0	21.4	50	OK	NA
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Benzo(a)pyrene	250	200	19.0	22.2	50	OK	NA
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Benzo(a)pyrene	500	720	20.0	36.1	50	OK	NA
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Benzo(b)fluoranthene	350	280	19.0	22.2	50	OK	NA
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Benzo(b)fluoranthene	790	900	61.0	13.0	50	OK	NA
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Benzo(g,h,i)perylene	150	140	19.0	6.90	50	OK	NA

FD = Field Duplicate
RL = Reporting Limit
RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7314

Location	Analysis
NHFLA-MW3	BNASIM

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Benzo(g,h,i)perylene	360	550	20.0	41.8	50	OK	NA
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Benzo(k)fluoranthene	110	100	19.0	9.52	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Benzo(k)fluoranthene	210	280	20.0	28.6	50	OK	NA
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Chrysene	250	200	19.0	22.2	50	OK	NA
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Chrysene	540	660	61.0	20.0	50	OK	NA
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Dibenz(a,h)anthracene	47.0	25.0	19.0	61.1	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Dibenz(a,h)anthracene	94.0	130	20.0	32.1	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Fluoranthene	390	330	19.0	16.7	50	OK	NA
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Fluoranthene	900	910	61.0	1.10	50	OK	NA
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Fluorene	16.0	9.30	19.0	53.0	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Fluorene	19.0	18.0	20.0	5.41	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Indeno(1,2,3-c,d)pyrene	140	140	19.0	0.00	50	OK	NA
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Indeno(1,2,3-c,d)pyrene	300	420	20.0	33.3	50	OK	NA
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Naphthalene	ND	ND	19.0	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Naphthalene	ND	ND	20.0	NA	50	NA	OK

FD = Field Duplicate
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RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7314

Location	Analysis
NHFLA-MW3	BNASIM

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Phenanthrene	190	160	19.0	17.1	50	OK	NA
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Phenanthrene	330	350	20.0	5.88	50	OK	NA
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Pyrene	440	380	19.0	14.6	50	OK	NA
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Pyrene	1000	1100	61.0	9.52	50	OK	NA

Location	Analysis
NHFLA-MW3	LYDKHN

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Total Organic Carbon	42000	37000	2000	12.7	50	OK	NA
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Total Organic Carbon	23000	18000	680	24.4	50	OK	NA

Location	Analysis
NHFLA-MW3	SW6010

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Aluminum	13000	13200	26.0	1.53	50	OK	NA
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Aluminum	7760	13400	30.0	53.3	50	Out	NA
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Antimony	0.250	0.210	0.690	17.4	50	NA	OK

FD = Field Duplicate
RL = Reporting Limit
RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7314

Location	Analysis
NHFLA-MW3	SW6010

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Antimony	0.530	0.440	0.790	18.6	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Arsenic	9.20	10.5	0.690	13.2	50	OK	NA
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Arsenic	6.11	8.17	0.790	28.9	50	OK	NA
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Barium	67.4	70.3	0.430	4.21	50	OK	NA
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Barium	49.9	83.2	0.490	50.0	50	Out	NA
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Beryllium	0.687	0.747	0.430	8.37	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Beryllium	0.669	1.13	0.490	51.3	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Cadmium	0.240	0.259	0.430	7.62	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Cadmium	0.177	0.338	0.490	62.5	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Calcium	56200	29400	17.0	62.6	50	Out	NA
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Calcium	196000	62600	49.0	103	50	Out	NA
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Chromium	16.8	17.1	0.870	1.77	50	OK	NA
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Chromium	41.2	21.7	0.990	62.0	50	Out	NA
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Cobalt	8.85	9.87	0.870	10.9	50	OK	NA
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Cobalt	4.17	7.14	0.990	52.5	50	NA	3.0

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7314

Location	Analysis
NHFLA-MW3	SW6010

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Copper	26.8	32.9	2.20	20.4	50	OK	NA
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Copper	19.3	30.8	2.50	45.9	50	OK	NA
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Iron	21600	28100	8.70	26.2	50	OK	NA
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Iron	12200	19400	9.90	45.6	50	OK	NA
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Lead	21.1	23.0	0.430	8.62	50	OK	NA
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Lead	31.5	43.2	0.490	31.3	50	OK	NA
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Magnesium	7110	7060	8.70	0.706	50	OK	NA
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Magnesium	6250	8040	9.90	25.1	50	OK	NA
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Manganese	525	482	0.430	8.54	50	OK	NA
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Manganese	622	811	0.490	26.4	50	OK	NA
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Nickel	28.9	38.3	0.870	28.0	50	OK	NA
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Nickel	18.5	28.1	0.990	41.2	50	OK	NA
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Potassium	1710	1670	87.0	2.37	50	OK	NA
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Potassium	1180	1980	99.0	50.6	50	Out	NA
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Selenium	0.610	1.00	0.870	48.4	50	NA	OK

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Field Duplicate Report By SDG

C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7314

Location	Analysis
NHFLA-MW3	SW6010

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Selenium	0.600	0.930	0.990	43.1	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Silver	ND	0.160	0.870	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Silver	ND	ND	0.990	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Sodium	142	125	87.0	12.7	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Sodium	190	224	99.0	16.4	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Thallium	ND	0.240	1.30	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Thallium	ND	ND	1.50	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Vanadium	27.0	27.9	0.870	3.28	50	OK	NA
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Vanadium	14.7	25.5	0.990	53.7	50	Out	NA
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Zinc	97.2	108	1.70	10.5	50	OK	NA
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Zinc	78.2	133	2.00	51.9	50	Out	NA

Location	Analysis
NHFLA-MW3	SW7196

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Chromium, Hexavalent	ND	ND	0.550	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7314

Location	Analysis
NHFLA-MW3	SW7196

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Chromium, Hexavalent	ND	ND	1.10	NA	50	NA	OK

Location	Analysis
NHFLA-MW3	SW7471

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Mercury	0.0320	0.0350	0.0280	8.96	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Mercury	0.0450	0.0518	0.0310	14.0	50	NA	OK

Location	Analysis
NHFLA-MW3	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	1,1,1-Trichloroethane	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	1,1,1-Trichloroethane	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	1,1,2,2-Tetrachloroethane	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	1,1,2,2-Tetrachloroethane	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ND	4.20	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7314

Location	Analysis
NHFLA-MW3	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	1,1,2-Trichloroethane	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	1,1,2-Trichloroethane	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	1,1-Dichloroethane	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	1,1-Dichloroethane	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	1,1-Dichloroethene	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	1,1-Dichloroethene	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	1,2,3-Trichlorobenzene	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	1,2,3-Trichlorobenzene	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	1,2,4-Trichlorobenzene	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	1,2,4-Trichlorobenzene	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	1,2-Dibromo-3-chloropropane	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	1,2-Dibromo-3-chloropropane	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	1,2-Dibromoethane (EDB)	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	1,2-Dibromoethane (EDB)	ND	ND	5.00	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7314

Location	Analysis
NHFLA-MW3	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	1,2-Dichlorobenzene	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	1,2-Dichlorobenzene	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	1,2-Dichloroethane	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	1,2-Dichloroethane	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	1,2-Dichloropropane	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	1,2-Dichloropropane	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	1,3-Dichlorobenzene	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	1,3-Dichlorobenzene	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	1,4-Dichlorobenzene	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	1,4-Dichlorobenzene	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	2-Butanone (MEK)	ND	ND	21.0	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	2-Butanone (MEK)	ND	ND	25.0	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	2-Hexanone	ND	ND	21.0	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	2-Hexanone	ND	ND	25.0	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	4-Methyl-2-pentanone (MIBK)	ND	ND	21.0	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7314

Location	Analysis
NHFLA-MW3	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	4-Methyl-2-pentanone (MIBK)	ND	ND	25.0	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Acetone	ND	ND	21.0	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Acetone	ND	ND	25.0	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Benzene	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Benzene	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Bromochloromethane	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Bromochloromethane	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Bromodichloromethane	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Bromodichloromethane	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Bromoform	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Bromoform	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Bromomethane	ND	ND	10.0	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Bromomethane	ND	ND	8.30	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Carbon disulfide	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Carbon disulfide	ND	ND	5.00	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7314

Location	Analysis
NHFLA-MW3	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Carbon tetrachloride	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Carbon tetrachloride	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Chlorobenzene	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Chlorobenzene	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Chloroethane	ND	ND	10.0	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Chloroethane	ND	ND	8.30	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Chloroform	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Chloroform	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Chloromethane	ND	ND	10.0	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Chloromethane	ND	ND	8.30	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	cis-1,2-Dichloroethene	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	cis-1,2-Dichloroethene	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	cis-1,3-Dichloropropene	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	cis-1,3-Dichloropropene	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Cyclohexane	ND	ND	4.20	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7314

Location	Analysis
NHFLA-MW3	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Cyclohexane	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Dibromochloromethane	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Dibromochloromethane	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Dichlorodifluoromethane	ND	ND	10.0	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Dichlorodifluoromethane	ND	ND	8.30	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Ethylbenzene	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Ethylbenzene	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Isopropylbenzene (Cumene)	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Isopropylbenzene (Cumene)	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	m,p-Xylene	ND	ND	10.0	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	m,p-Xylene	ND	ND	8.30	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Methyl acetate	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Methyl acetate	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Methyl tert-butyl ether (MTBE)	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Methyl tert-butyl ether (MTBE)	ND	ND	5.00	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7314

Location	Analysis
NHFLA-MW3	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Methylcyclohexane	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Methylcyclohexane	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Methylene chloride	ND	ND	21.0	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Methylene chloride	ND	ND	25.0	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	o-Xylene	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	o-Xylene	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Styrene	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Styrene	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Tetrachloroethene (PCE)	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Tetrachloroethene (PCE)	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Toluene	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Toluene	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	trans-1,2-Dichloroethene	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	trans-1,2-Dichloroethene	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	trans-1,3-Dichloropropene	ND	ND	4.20	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7314

Location	Analysis
NHFLA-MW3	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	trans-1,3-Dichloropropene	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Trichloroethene (TCE)	ND	ND	4.20	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Trichloroethene (TCE)	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Trichlorofluoromethane	ND	ND	10.0	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Trichlorofluoromethane	ND	ND	8.30	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Vinyl chloride	ND	ND	10.0	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Vinyl chloride	ND	ND	8.30	NA	50	NA	OK

Location	Analysis
NHFLA-MW3	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	1,2,4,5-Tetrachlorobenzene	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	1,2,4,5-Tetrachlorobenzene	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	1,4-Dioxane (p-Dioxane)	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	1,4-Dioxane (p-Dioxane)	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	2,2'-Oxybis(1-chloropropane)	ND	ND	320	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7314

Location	Analysis
NHFLA-MW3	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	2,2'-Oxybis(1-chloropropane)	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	2,4,5-Trichlorophenol	ND	ND	780	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	2,4,5-Trichlorophenol	ND	ND	840	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	2,4,6-Trichlorophenol	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	2,4,6-Trichlorophenol	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	2,4-Dichlorophenol	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	2,4-Dichlorophenol	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	2,4-Dimethylphenol	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	2,4-Dimethylphenol	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	2,4-Dinitrophenol	ND	ND	780	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	2,4-Dinitrophenol	ND	ND	840	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	2,4-Dinitrotoluene	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	2,4-Dinitrotoluene	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	2,6-Dinitrotoluene	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	2,6-Dinitrotoluene	ND	ND	340	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7314

Location	Analysis
NHFLA-MW3	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	2-Chloronaphthalene	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	2-Chloronaphthalene	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	2-Chlorophenol	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	2-Chlorophenol	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	2-Methylphenol (o-Cresol)	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	2-Methylphenol (o-Cresol)	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	2-Nitroaniline	ND	ND	780	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	2-Nitroaniline	ND	ND	840	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	2-Nitrophenol	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	2-Nitrophenol	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	3,3'-Dichlorobenzidine	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	3,3'-Dichlorobenzidine	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	3-Nitroaniline	ND	ND	780	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	3-Nitroaniline	ND	ND	840	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	4,6-Dinitro-2-methylphenol	ND	ND	780	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7314

Location	Analysis
NHFLA-MW3	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	4,6-Dinitro-2-methylphenol	ND	ND	840	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	4-Bromophenyl phenyl ether	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	4-Bromophenyl phenyl ether	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	4-Chloro-3-methylphenol	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	4-Chloro-3-methylphenol	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	4-Chloroaniline	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	4-Chloroaniline	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	4-Chlorophenyl phenyl ether	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	4-Chlorophenyl phenyl ether	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	4-Nitroaniline	ND	ND	780	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	4-Nitroaniline	ND	ND	840	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	4-Nitrophenol	ND	ND	780	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	4-Nitrophenol	ND	ND	840	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Acetophenone	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Acetophenone	ND	ND	340	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7314

Location	Analysis
NHFLA-MW3	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Atrazine	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Atrazine	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Benzaldehyde	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Benzaldehyde	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Benzyl butyl phthalate	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Benzyl butyl phthalate	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Biphenyl (Diphenyl)	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Biphenyl (Diphenyl)	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Bis(2-chloroethoxy)methane	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Bis(2-chloroethoxy)methane	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Bis(2-ethylhexyl)phthalate	ND	ND	1000	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Bis(2-ethylhexyl)phthalate	ND	ND	760	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Caprolactam	ND	ND	320	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7314

Location	Analysis
NHFLA-MW3	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Caprolactam	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Carbazole	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Carbazole	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Cresols, m- & p-	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Cresols, m- & p-	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Di-n-butyl phthalate	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Di-n-butyl phthalate	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	di-n-Octyl phthalate	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	di-n-Octyl phthalate	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Dibenzofuran	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Dibenzofuran	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Diethyl phthalate	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Diethyl phthalate	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Dimethyl phthalate	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Dimethyl phthalate	ND	ND	340	NA	50	NA	OK

FD = Field Duplicate
RL = Reporting Limit
RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7314

Location	Analysis
NHFLA-MW3	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Hexachlorobenzene	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Hexachlorobenzene	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Hexachlorobutadiene	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Hexachlorobutadiene	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Hexachlorocyclopentadiene	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Hexachlorocyclopentadiene	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Hexachloroethane	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Hexachloroethane	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Isophorone	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Isophorone	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	N-Nitrosodi-n-propylamine	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	N-Nitrosodi-n-propylamine	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	N-Nitrosodiphenylamine	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	N-Nitrosodiphenylamine	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Nitrobenzene	ND	ND	320	NA	50	NA	OK

FD = Field Duplicate
RL = Reporting Limit
RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7314

Location	Analysis
NHFLA-MW3	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Nitrobenzene	ND	ND	340	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Pentachlorophenol	ND	ND	780	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Pentachlorophenol	ND	ND	840	NA	50	NA	OK
NHFLA-MW3-B-AUG2020 / NHFLA-DUP4-AUG2020	SN7314-2 / SN7314-4	Phenol	ND	ND	320	NA	50	NA	OK
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	Phenol	ND	ND	340	NA	50	NA	OK

Location	Analysis
NHFLA-MW3	SW9045

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW3-A-AUG2020 / NHFLA-DUP3-AUG2020	SN7314-1 / SN7314-3	pH	8.40	8.40	0.100	0.00	50	OK	NA

FD = Field Duplicate
RL = Reporting Limit
RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Automated Data Review Detail Report for SN7314
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Rejected Results

--No Records Found--

Automated Data Review Detail Report for SN7314
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
BNASIM/SW3550/NONE	1	1
SW6010/SW3050/NONE	4	25
SW7196/SW3060/NONE	4	4
SW8260/SW5035/NONE	1	2
SW8270/SW3510/NONE	1	1
SW8270/SW3550/NONE	4	33

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
BNASIM/SW3550/NONE	NHFLA-DUP3-AUG2020	FD	4	Benzo(a)pyrene	720	12.0	38.0	76.0	36.666666	ug/kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-DUP3-AUG2020	FD	1	Antimony	0.440 J	0.0770	0.550	0.880	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP3-AUG2020	FD	1	Arsenic	8.17	0.0740	0.550	0.880	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP3-AUG2020	FD	1	Cadmium	0.338 J	0.00860	0.330	0.550	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP3-AUG2020	FD	1	Cobalt	7.14 J	0.0320	0.440	1.10	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP3-AUG2020	FD	1	Selenium	0.930 J	0.190	0.760	1.10	0.173333	mg/Kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-DUP3-AUG2020	FD	1	Thallium	0.550 U	0.0940	0.550	1.60	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP4-AUG2020	FD	2	Antimony	0.210 J	0.130	0.960	1.50	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP4-AUG2020	FD	2	Arsenic	10.5 J	0.130	0.960	1.50	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP4-AUG2020	FD	2	Cadmium	0.259 J	0.0150	0.580	0.960	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP4-AUG2020	FD	2	Cobalt	9.87	0.0560	0.770	1.90	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP4-AUG2020	FD	2	Selenium	1.00 J	0.330	1.30	1.90	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP4-AUG2020	FD	2	Silver	0.160 J	0.0520	0.770	1.90	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP4-AUG2020	FD	2	Thallium	0.240 J	0.160	0.960	2.90	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW3-A-AUG2020	N	1	Antimony	0.530 J	0.0690	0.490	0.790	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW3-A-AUG2020	N	1	Arsenic	6.11	0.0670	0.490	0.790	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW3-A-AUG2020	N	1	Cadmium	0.177 J	0.00780	0.300	0.490	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW3-A-AUG2020	N	1	Cobalt	4.17 J	0.0290	0.390	0.990	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW3-A-AUG2020	N	1	Selenium	0.600 J	0.170	0.690	0.990	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW3-A-AUG2020	N	1	Thallium	0.490 U	0.0850	0.490	1.50	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW3-B-AUG2020	N	1	Antimony	0.250 J	0.0610	0.430	0.690	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW3-B-AUG2020	N	1	Arsenic	9.20 J	0.0590	0.430	0.690	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW3-B-AUG2020	N	1	Cadmium	0.240 J	0.00690	0.260	0.430	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW3-B-AUG2020	N	1	Cobalt	8.85	0.0250	0.350	0.870	0.766666	mg/Kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-MW3-B-AUG2020	N	1	Selenium	0.610 J	0.150	0.610	0.870	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW3-B-AUG2020	N	1	Thallium	0.430 U	0.0750	0.430	1.30	0.016666	mg/Kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7196/SW3060/NONE	NHFLA-DUP3-AUG2020	FD	1.2	Chromium, Hexavalent	0.330 U	0.160	0.330	0.540	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-DUP4-AUG2020	FD	1.2	Chromium, Hexavalent	0.340 UJ	0.170	0.340	0.560	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-MW3-A-AUG2020	N	2.5	Chromium, Hexavalent	0.670 U	0.340	0.670	1.10	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-MW3-B-AUG2020	N	1.2	Chromium, Hexavalent	0.330 UJ	0.160	0.330	0.550	0.4	mg/kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8260/SW5035/NONE	NHFLA-DUP3-AUG2020	FD	1	1,2-Dibromo-3-chloropropane	2.50 U	1.50	2.50	5.10	5	ug/kg
SW8260/SW5035/NONE	NHFLA-DUP3-AUG2020	FD	1	Carbon disulfide	2.50 U	0.790	2.50	5.10	5	ug/kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3510/NONE	NHFLA-EB9-AUG2020	EB	1	bis(2-Ethylhexyl) phthalate	7.20 UJ	1.60	7.20	9.60	10	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-DUP3-AUG2020	FD	1	bis(2-Ethylhexyl) phthalate	240 U	93.0	240	310	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP4-AUG2020	FD	1	bis(2-Ethylhexyl) phthalate	250 U	98.0	250	330	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW3-A-AUG2020	N	1	1,2,4,5-Tetrachlorobenzene	250 U	140	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW3-A-AUG2020	N	1	2,4-Dichlorophenol	250 U	150	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW3-A-AUG2020	N	1	2,4-Dimethylphenol	250 U	170	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW3-A-AUG2020	N	1	2,4-Dinitrophenol	630 U	380	630	840	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW3-A-AUG2020	N	1	2,6-Dinitrotoluene	250 U	80.0	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW3-A-AUG2020	N	1	2-Chlorophenol	250 U	170	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW3-A-AUG2020	N	1	2-Methylphenol (o-Cresol)	250 U	200	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW3-A-AUG2020	N	1	2-Nitroaniline	630 U	76.0	630	840	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW3-A-AUG2020	N	1	3,3'-Dichlorobenzidine	250 U	120	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW3-A-AUG2020	N	1	4,6-Dinitro-2-methylphenol	630 U	340	630	840	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW3-A-AUG2020	N	1	4-Chloroaniline	250 U	120	250	340	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-MW3-A-AUG2020	N	1	Atrazine	250 U	93.0	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW3-A-AUG2020	N	1	Benzyl butyl phthalate	250 U	95.0	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW3-A-AUG2020	N	1	Biphenyl (Diphenyl)	250 U	74.0	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW3-A-AUG2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	250 U	82.0	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW3-A-AUG2020	N	1	bis(2-Ethylhexyl) phthalate	250 U	100	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW3-A-AUG2020	N	1	Carbazole	250 U	110	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW3-A-AUG2020	N	1	Dibenzofuran	250 U	80.0	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW3-A-AUG2020	N	1	Diethyl phthalate	250 U	82.0	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW3-A-AUG2020	N	1	Dimethyl phthalate	250 U	80.0	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW3-A-AUG2020	N	1	Di-n-butyl phthalate	250 U	100	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW3-A-AUG2020	N	1	Di-n-octyl phthalate	250 U	220	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW3-A-AUG2020	N	1	Hexachlorobenzene	250 U	84.0	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW3-A-AUG2020	N	1	Hexachlorobutadiene	250 U	85.0	250	340	330	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW3-A-AUG2020	N	1	Hexachlorocyclopentadiene	250 U	84.0	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW3-A-AUG2020	N	1	Hexachloroethane	250 U	98.0	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW3-A-AUG2020	N	1	n-Nitrosodi-n-propylamine	250 U	85.0	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW3-A-AUG2020	N	1	n-Nitrosodiphenylamine	250 U	220	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW3-A-AUG2020	N	1	Pentachlorophenol	630 U	240	630	840	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW3-A-AUG2020	N	1	Phenol	250 U	160	250	340	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW3-B-AUG2020	N	1	bis(2-Ethylhexyl) phthalate	240 U	94.0	240	320	330	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
C	LCS Recovery
D	MS RPD
D3	Field Duplicate RPD
H1	Test Hold Time
H2	Prep Hold Time
I	Surrogate recovery outside project limits.
L	Lab Blank
M	MS Recovery
T	Trip Blank
TR	Trace Level Detect
V	Equipment Blank

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: BNASIM (GC/MS-SIM Analysis by SW8270)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			QC LCS WG285464-1 had 1 of 3 surrogates biased high which did not require qualification. Not reflected in data tables.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC WG285464-1 detections below the LOQ for phenanthrene, fluoranthene, pyrene, chrysene. Qualifications not required based on these method blank detections.
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?		•		QC WG285452-2 low bias recoveries for indeno (123cd)pyrene and dibenzo(ah)anthracene. Sample -005 qualified as estimated with UJ/C flags/reason codes for these analytes. WG285464 RERUN QC was not used to qualify field sample results.
Was the LCS/LCSD RPD within project acceptance limits?		•		
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -004 MS recoveries were outliers biased high for multiple analytes, biased low for indeno (123cd)pyrene and had RPD outliers for multiple analytes. See MS QC outlier table for SIM analysis for details of M/D reason code flags. NOTE: sample -004 was field duplicate for parent sample -002 so both samples were qualified based on these sample -004 MS outliers.
Was the MS/MSD RPD within project acceptance limits?		•		Almost all target analytes had RPD outliers. Please reference MS QC outlier table for details.
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			Samples -001/-003 and -002/-004 were processed as parent/field duplicate pairs. All field duplicate flags were removed - see comments in SDG for details.
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: LYDKHN (Lloyd Kahn Method for the Determination of Total Organic Carbon in Sediment, USEPA Region II Method)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			Soil H2 qualifiers were removed since analysis was performed within project required holding times.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -004 MS/MSD recoveries biased low. Sample -004 and -002 qualified with J/C flags/reason codes.
Was the MS/MSD RPD within project acceptance limits?	•			
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW6010 (Trace Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC NI02ICS1 detections below LOQ for aluminum, calcium, chromium, magnesium, nickel, potassium, sodium and QC NI04ICS1 detections below LOQ for aluminum, calcium, chromium, magnesium, potassium, sodium did not require qualification for associated field results.
Were target analytes in the field blank less than MDL?		•		See method 6020 narrative for equipment blank detections.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -004 recoveries were biased low for antimony, arsenic, nickel, zinc, copper and biased high for lead, chromium, potassium and vanadium. Sample -004 and -002 results were qualified for these analytes with J/M flags/reason codes. MS recoveries for aluminum, calcium, iron, manganese and magnesium were not used to qualify data based on the 4X rule criteria. NOTE: qualifier tables did not include iron 4X status.
Was the MS/MSD RPD within project acceptance limits?		•		Sample -004 aluminum, potassium MS/MSD RPD was outside project criteria so samples -002 and -004 results for this analyte were qualified with D reason codes.
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?		•		Parent/field duplicate pairs -002/-004 results for calcium were qualified D3 due to field duplicate RPD outliers and pairs -001/-003 results for aluminum, barium, calcium, chromium, cobalt, potassium, vanadium, zinc were qualified D3. NOTE: database sample pairing issues corrected and qualifiers updated as required.
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	

Review Questions

Method: SW6010 (Trace Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry)				
Review Questions	Yes	No	NA	Comment
Were any data rejected during the verification process?		•		

Review Questions

Method: SW6020 (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC NI02IMW2 and NI11IMW1 had detections above the LOQ for barium and below the LOQ for aluminum, antimony, beryllium, cadmium, cobalt, chromium, copper, iron, lead, magnesium, manganese and socium. Sample -005 was qualified U/L for copper, iron, manganese, aluminum, antimony, chromium, magnesium, sodium. NOTE: QC batch PBNWI02IMW1 which was associated with sample -005 re-analysis data was not included in the pdf lab report and did not effect qualification of field sample results.
Were target analytes in the field blank less than MDL?		•		Sample -005 was equipment blank and included detections below the LOQ including flagged metals noted in method blank narration above.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?		•		QC NI021MW2 recovery was biased high for thallium. Qualification was not required based on this high bias result.
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7196 (Chromium, Hexavalent (Colorimetric))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			H1 qualifiers removed for soil samples since they were analyzed within project criteria hold time for soils.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC WG284597 had a detection below LOQ. Sample -005 result for this parameter was qualified non-detect at LOQ with U/L flag/reason code.
Were target analytes in the field blank less than MDL?		•		See above for detection qualified as non-detect due to method blank.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only.
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -004 low level spike was biased low so client samples -002 and -004 were qualified as estimated with UJ/M flags/reason codes. NOTE: high level MS recovery was acceptable for sample -004.
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7470 (Mercury in Liquid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC BU02HGMW1 had a detection below LOQ. Qualification of field results was not required based on this method blank detection.
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7471 (Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		MS for sample -004 was biased low so sample -002 and -004 results for this analyte were qualified as estimated with J/M flags/reason codes.
Was the MS/MSD RPD within project acceptance limits?			•	MS only
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW8260 (Volatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			Removed H flags since all soil samples were analyzed on the 14th day (project criteria limit).
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Samples -001 and -002 surrogates were biased low for 1 of 4 surrogate recoveries. These results were qualified as estimated with UJ/I flags/reason codes. NOTE: sample -001RA and -002RA re-analyses also had surrogate outliers so were not considered for final results.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC WG286120-2 had a detection below the LOQ for methylene chloride. Field samples -001, -002, -003, -004 methylene chloride results were qualified as non-detect at the LOQ and qualified U/L flags/reason codes.
Were target analytes in the field blank less than MDL?		•		Trip blank had a detection below the LOQ for methylene chloride and equipment blank had detections below the LOQ for methylene chloride and toluene. Qualifications were not made based on these field blank detections.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -004 MS recoveries were outliers biased low for chlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 1,2-dichlorobenzene, 1,2,4-trichlorobenzene, 1,2,3-trichlorobenzene and biased high for trichlorofluoromethane. Analytes associated with low bias recoveries were qualified with M reason codes and considered estimated for samples -004 and -002.
Was the MS/MSD RPD within project acceptance limits?		•		Sample -004 MS/MSD RPD were outliers for 2-hexanone, 1,2-dibromo-3-chloropropane, methyl acetate and methylcyclohexane. Analytes associated with these RPD outliers were qualified with D reason codes and considered estimated if detected for samples -004 and -002.
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW8270 (Semivolatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Sample -005 acid fraction surrogates were biased low for 1 of 3 surrogates (not identified in lab report). Sample -005 acid fraction results were qualified estimated with UJ/I flags and flags assigned to base-neutral fraction analytes were removed.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC WG285454-1 and WG285465-1 had detections ABOVE the LOQ for bis-2-ethylhexylphthalate. All client sample results for this target analyte were qualified as non-detect at a modified RL (RL raised to level of detected analyte in each sample) with U/L flags/reason codes.
Were target analytes in the field blank less than MDL?		•		See above for equipment blank detection that was qualified based on method blank detection.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only.
Were LCS/LCSD recoveries within project acceptance limits?		•		QC WG285454-2 recovery was biased high for benzaldehyde and WG285465-2 recoveries were biased high for benzaldehyde, bis-2-ethylhexylphthalate and 3,3-dichlorobenzidine and biased low for caprolactam. Client samples -001, -002, -003, -004 caprolactam results were qualified estimated with UJ/C flags/reason codes.
Was the LCS/LCSD RPD within project acceptance limits?		•		LCS/LCSD RPD's were outliers for caprolactam, pentachlorophenol, n-nitrosodiphenylamine, atrazine. D reason codes were assigned to these results in samples -001, -002, -003, -004 but since associated field results were non-detect they were not flagged based on this QC outlier alone.
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		MS/MSD recoveries in client sample -004 were outliers biased high for benzaldehyde. Qualification was not required based on this high bias recovery outlier.
Was the MS/MSD RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW9045 (Soil pH)

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?			•	
Were target analytes in the method blank less than MDL?			•	
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	SN7357
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Katahdin Analytical Services, Westbrook, ME
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	December 15, 2020- Resubmitted Januay 26, 2021 based on DoD Chemist review - REV2 - 2/11/2021 - review checklist method 6010 S2AVEM-7 clarification. REV 3 - see page 3 for revision summary

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	BNASIM	LYDKHN	SW6010	SW6020	SW7196	SW7470	SW7471	SW8260	SW8270	SW9045
NHFLA-DUP5-SEP2020	SN7357-3	Solid	Field Duplicate/FD	X	X	X		X		X	X	X	
NHFLA-MW4OB-A-SEP2020	SN7357-4	Solid	Field Sample/N	X	X	X		X		X	X	X	X
NHFLA-MW4OB-B-SEP2020	SN7357-5	Solid	Field Sample/N	X	X	X		X		X	X	X	
NHFLA-MW8-A-SEP2020	SN7357-1	Solid	Field Sample/N	X	X	X		X		X	X	X	X
NHFLA-MW8-B-SEP2020	SN7357-2	Solid	Field Sample/N	X	X	X		X		X	X	X	
NHFLA-EB10-SEP2020	SN7357-6	Water	Equipment Blank/EB	X			X	X	X		X	X	
NHFLA-TB12-SEP2020	SN7357-7	Water	Trip Blank/TB								X		

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Katahdin Analytical Services, Westbrook, ME and were reported under sample delivery group (SDG) SN7357. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Extracted Internal Standard
- Field Duplicate RPD
- Lab Blank
- Lab Replicate RPD
- LCS Recovery
- LCS RPD
- MS Recovery
- Prep Hold Time
- Surrogate
- Test Hold Time
- Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 146 results (16.04%) out of the 910 results (sample and field QC samples) reported are qualified based on review and 0 results (0.00%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

REVISION SUMMARY - Narrative Comments

GENERAL COMMENTS: Hydrazine field sample results and QC are included in this SDG but electronic data is in separate SDG (13059-1). Please reference validation report 13059-1 for data qualification summary.

REVISION SUMMARY: Database field duplicate linked samples issues for association -002/-003 have been corrected in database. Flagging corrections were not required so only FDUP summary tables have been updated in this DVR.

Analytical Method	Data Reviewer Comment
BNASIM	No additional comments; see Checklist for detail.
LYDKHN	No additional comments; see Checklist for detail.
SW6010	No additional comments; see Checklist for detail.
SW6020	No additional comments; see Checklist for detail.
SW7196	No additional comments; see Checklist for detail.
SW7470	No additional comments; see Checklist for detail.
SW7471	No additional comments; see Checklist for detail.
SW8260	No additional comments; see Checklist for detail.
SW8270	No additional comments; see Checklist for detail.
SW9045	No additional comments; see Checklist for detail.

Jim Tomalia

April 6, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method BNASIM, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285632-2 (BS)/ WG285632-2	Indeno(1,2,3-c,d)pyrene	46.00	48 - 130	10 - 130	percent	J/UJ	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB10-SEP2020	EB	Indeno(1,2,3-c,d)pyrene	0.200	0.0990 UL	0.0990 UJ		ug/l	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method BNASIM, Prep Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of extraction found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW8-A-SEP2020 (N)/ SN7357-1		40.50	< 40	< 80	days	J/UJ	H2	Prep to Test Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method LYDKHN, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW8-A-SEP2020 (MS)/ WG285821-6	Total Organic Carbon	25.68	75 - 125	30 - 150	percent	J/X	M	Spike amount Insignificant

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method LYDKHN, Prep Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of extraction found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-DUP5-SEP2020 (FD)/ SN7357-3		6.940	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW4OB-A-SEP2020 (N)/ SN7357-4		6.750	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW4OB-B-SEP2020 (N)/ SN7357-5		6.730	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW8-A-SEP2020 (N)/ SN7357-1		6.970	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW8-A-SEP2020 (N)/ WG285821-6		6.970	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW8-B-SEP2020 (N)/ SN7357-2		6.940	< 0	< 0	days	J/X	H2	Prep Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6010, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBSNI03ICS1 (LB)/ PBSNI03ICS1	Chromium	0.04200	< 0.026	< 1	mg/kg	U/None	L	
PBSNI03ICS1 (LB)/ PBSNI03ICS1	Barium	0.06600	< 0.025	< 0.5	mg/kg	U/None	L	
PBSNI03ICS1 (LB)/ PBSNI03ICS1	Nickel	0.09300	< 0.044	< 1	mg/kg	U/None	L	
PBSNI03ICS1 (LB)/ PBSNI03ICS1	Manganese	0.2200	< 0.16	< 0.5	mg/kg	U/None	L	
PBSNI03ICS1 (LB)/ PBSNI03ICS1	Zinc	0.2800	< 0.17	< 2	mg/kg	U/None	L	
PBSNI03ICS1 (LB)/ PBSNI03ICS1	Potassium	14.00	< 2.9	< 100	mg/kg	U/None	L	
PBSNI03ICS1 (LB)/ PBSNI03ICS1	Magnesium	2.100	< 0.68	< 10	mg/kg	U/None	L	
PBSNI03ICS1 (LB)/ PBSNI03ICS1	Iron	2.200	< 1.4	< 10	mg/kg	U/None	L	
PBSNI03ICS1 (LB)/ PBSNI03ICS1	Calcium	6.800	< 1.8	< 10	mg/kg	U/None	L	
PBSNI03ICS1 (LB)/ PBSNI03ICS1	Sodium	7.100	< 1.5	< 100	mg/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB10-SEP2020 (EB)/ SN7357-6	Cadmium	0.1100	< 0.059	< 2	ug/l	U/None	V	
NHFLA-EB10-SEP2020 (EB)/ SN7357-6	Cobalt	0.1700	< 0.12	< 2	ug/l	U/None	V	
NHFLA-EB10-SEP2020 (EB)/ SN7357-6	Antimony	0.4200	< 0.22	< 4	ug/l	U/None	V	
NHFLA-EB10-SEP2020 (EB)/ SN7357-6	Manganese	1.500	< 0.7	< 4	ug/l	U/None	V	
NHFLA-EB10-SEP2020 (EB)/ SN7357-6	Copper	1.600	< 0.37	< 6	ug/l	U/None	V	
NHFLA-EB10-SEP2020 (EB)/ SN7357-6	Aluminum	17.00	< 8.8	< 200	ug/l	U/None	V	
NHFLA-EB10-SEP2020 (EB)/ SN7357-6	Barium	2.800	< 1.1	< 8	ug/l	U/None	V	
NHFLA-EB10-SEP2020 (EB)/ SN7357-6	Magnesium	24.00	< 16	< 200	ug/l	U/None	V	
NHFLA-EB10-SEP2020 (EB)/ SN7357-6	Sodium	240.0	< 37	< 2000	ug/l	U/None	V	
NHFLA-EB10-SEP2020 (EB)/ SN7357-6	Calcium	68.00	< 41	< 200	ug/l	U/None	V	
NHFLA-EB10-SEP2020 (EB)/ SN7357-6	Iron	90.00	< 26	< 200	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNI09IMW3 (LB)/ PBWNI09IMW3	Lead	0.2200	< 0.074	< 1	ug/l	U/None	L	
PBWNI09IMW3 (LB)/ PBWNI09IMW3	Copper	0.6600	< 0.18	< 3	ug/l	U/None	L	
PBWNI09IMW3 (LB)/ PBWNI09IMW3	Magnesium	14.00	< 7.8	< 100	ug/l	U/None	L	
PBWNI09IMW3 (LB)/ PBWNI09IMW3	Aluminum	8.500	< 4.4	< 100	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB10-SEP2020	EB	Aluminum	200	17.0 J	80.0 U		ug/l	L
NHFLA-EB10-SEP2020	EB	Copper	6.00	1.60 J	4.00 U		ug/l	L
NHFLA-EB10-SEP2020	EB	Magnesium	200	24.0 J	160 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB10-SEP2020 (EB)/ SN7357-6	Chromium, Hexavalent	0.001400	< 0.00076	< 0.025	mg/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7196, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285553-1 (LB)/ WG285553-1	Chromium, Hexavalent	0.0009200	< 0.00076	< 0.025	mg/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB10-SEP2020	EB	Chromium, Hexavalent	0.0250	0.00140 J	0.0125 U		mg/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-DUP5-SEP2020 (FD)/ SN7357-3		8.040	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-MW4OB-A-SEP2020 (N)/ SN7357-4		7.860	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-MW4OB-B-SEP2020 (N)/ SN7357-5		7.840	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-MW8-A-SEP2020 (N)/ SN7357-1		8.080	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-MW8-B-SEP2020 (N)/ SN7357-2		8.040	< 1	< 2	days	J/X	H1	Test Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7470, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB10-SEP2020 (EB)/ SN7357-6	Mercury	0.05800	< 0.013	< 0.2	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7470, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNI09HGW2 (LB)/ PBWNI09HGW2	Mercury	0.08000	< 0.013	< 0.2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW7470

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB10-SEP2020	EB	Mercury	0.200	0.0580 J	0.100 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW4OB-A-SEP2020 (N)/ SN7357-4	Dibromofluoromethane	139.0	78 - 119	10 - 119	percent	J/None	I	
NHFLA-MW4OB-A-SEP2020 (N)/ SN7357-4	1,2-Dichloroethane-d4	172.0	71 - 136	10 - 136	percent	J/None	I	
NHFLA-MW4OB-A-SEP2020 (N)/ SN7357-4	1-Bromo-4-fluorobenzene (4-Bromofluorobenzene)	74.40	79 - 119	10 - 119	percent	J/UJ	I	
NHFLA-MW4OB-B-SEP2020 (N)/ SN7357-5	Dibromofluoromethane	123.0	78 - 119	10 - 119	percent	J/None	I	
NHFLA-MW8-A-SEP2020 (N)/ SN7357-1	Dibromofluoromethane	124.0	78 - 119	10 - 119	percent	J/None	I	
NHFLA-MW8-B-SEP2020 (N)/ SN7357-2	1-Bromo-4-fluorobenzene (4-Bromofluorobenzene)	76.60	79 - 119	10 - 119	percent	J/UJ	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW4OB-A-SEP2020	N	1,1,1-Trichloroethane	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	1,1,2,2-Tetrachloroethane	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	1,1,2-Trichloroethane	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	1,1-Dichloroethane	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	1,1-Dichloroethene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	1,2,3-Trichlorobenzene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	1,2,4-Trichlorobenzene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	1,2-Dibromo-3-chloropropane	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	1,2-Dibromoethane (EDB)	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	1,2-Dichlorobenzene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	1,2-Dichloroethane	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	1,2-Dichloropropane	5.30	2.60 U	2.60 UJ		ug/kg	I

Qualified Results associated with the Surrogate for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW4OB-A-SEP2020	N	1,3-Dichlorobenzene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	1,4-Dichlorobenzene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	2-Butanone (MEK)	26.0	13.0 U	13.0 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	2-Hexanone	26.0	13.0 U	13.0 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	4-Methyl-2-pentanone (MIBK)	26.0	13.0 U	13.0 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Acetone	26.0	13.0 U	13.0 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Benzene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Bromochloromethane	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Bromodichloromethane	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Bromoform	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Bromomethane	10.0	5.30 U	5.30 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Carbon disulfide	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Carbon tetrachloride	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Chlorobenzene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Chloroethane	10.0	5.30 U	5.30 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Chloroform	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Chloromethane	10.0	5.30 U	5.30 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	cis-1,2-Dichloroethene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	cis-1,3-Dichloropropene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Cyclohexane	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Dibromochloromethane	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Dichlorodifluoromethane	10.0	5.30 U	5.30 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Ethylbenzene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Isopropylbenzene (Cumene)	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	m,p-Xylene	10.0	5.30 U	5.30 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Methyl acetate	5.30	3.20 U	3.20 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Methyl tert-butyl ether (MTBE)	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Methylcyclohexane	5.30	2.60 U	2.60 UJ		ug/kg	I

Qualified Results associated with the Surrogate for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW4OB-A-SEP2020	N	Methylene chloride	26.0	15.0 J	15.0 J		ug/kg	I/TR
NHFLA-MW4OB-A-SEP2020	N	o-Xylene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Styrene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Tetrachloroethene (PCE)	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Toluene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	trans-1,2-Dichloroethene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	trans-1,3-Dichloropropene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Trichloroethene (TCE)	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Trichlorofluoromethane	10.0	5.30 U	5.30 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Vinyl chloride	10.0	5.30 U	5.30 UJ		ug/kg	I
NHFLA-MW4OB-B-SEP2020	N	Methylene chloride	25.0	8.00 J	8.00 J	+	ug/kg	I/TR
NHFLA-MW8-A-SEP2020	N	Methylene chloride	24.0	8.50 J	8.50 J		ug/kg	I/TR
NHFLA-MW8-B-SEP2020	N	1,1,1-Trichloroethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	1,1,2,2-Tetrachloroethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	1,1,2-Trichloroethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	1,1-Dichloroethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	1,1-Dichloroethene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	1,2,3-Trichlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	1,2,4-Trichlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	1,2-Dibromo-3-chloropropane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	1,2-Dibromoethane (EDB)	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	1,2-Dichlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	1,2-Dichloroethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	1,2-Dichloropropane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	1,3-Dichlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	1,4-Dichlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	2-Butanone (MEK)	25.0	29.0	29.0 J	-	ug/kg	I
NHFLA-MW8-B-SEP2020	N	2-Hexanone	25.0	13.0 U	13.0 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	4-Methyl-2-pentanone (MIBK)	25.0	13.0 U	13.0 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Acetone	25.0	140	140 J	-	ug/kg	I
NHFLA-MW8-B-SEP2020	N	Benzene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Bromochloromethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Bromodichloromethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Bromoform	5.00	2.50 U	2.50 UJ		ug/kg	I

Qualified Results associated with the Surrogate for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW8-B-SEP2020	N	Bromomethane	10.0	5.00 U	5.00 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Carbon disulfide	5.00	0.950 J	0.950 J	-	ug/kg	I/TR
NHFLA-MW8-B-SEP2020	N	Carbon tetrachloride	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Chlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Chloroethane	10.0	5.00 U	5.00 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Chloroform	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Chloromethane	10.0	5.00 U	5.00 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	cis-1,2-Dichloroethene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	cis-1,3-Dichloropropene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Cyclohexane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Dibromochloromethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Dichlorodifluoromethane	10.0	5.00 U	5.00 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Ethylbenzene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Isopropylbenzene (Cumene)	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	m,p-Xylene	10.0	5.00 U	5.00 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Methyl acetate	5.00	3.00 U	3.00 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Methyl tert-butyl ether (MTBE)	5.00	1.50 J	1.50 J	-	ug/kg	I/TR
NHFLA-MW8-B-SEP2020	N	Methylcyclohexane	5.00	1.80 J	1.80 J	-	ug/kg	I/TR
NHFLA-MW8-B-SEP2020	N	Methylene chloride	25.0	8.80 J	8.80 J	-	ug/kg	I/TR
NHFLA-MW8-B-SEP2020	N	o-Xylene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Styrene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Tetrachloroethene (PCE)	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Toluene	5.00	4.70 J	4.70 J	-	ug/kg	I/TR
NHFLA-MW8-B-SEP2020	N	trans-1,2-Dichloroethene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	trans-1,3-Dichloropropene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Trichloroethene (TCE)	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Trichlorofluoromethane	10.0	5.00 U	5.00 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Vinyl chloride	10.0	5.00 U	5.00 UJ		ug/kg	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW8-A-SEP2020 (N)/ SN7357-1		14.14	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB10-SEP2020 (EB)/ SN7357-6	Bis(2-ethylhexyl)phthalate	16.00	< 1.7	< 9.9	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285631-1 (LB)/ WG285631-1	Bis(2-ethylhexyl)phthalate	4.800	< 1.7	< 10	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB10-SEP2020	EB	Bis(2-ethylhexyl)phthalate	16.0	16.0	16.0 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285545-1 (LB)/ WG285545-1	Bis(2-ethylhexyl)phthalate	510.0	< 98	< 330	ug/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP5-SEP2020	FD	Bis(2-ethylhexyl)phthalate	2000	2000 B	2000 U		ug/kg	L
NHFLA-MW4OB-A-SEP2020	N	Bis(2-ethylhexyl)phthalate	1200	1200 B	1200 U		ug/kg	L
NHFLA-MW4OB-B-SEP2020	N	Bis(2-ethylhexyl)phthalate	660	660 B	660 U		ug/kg	L
NHFLA-MW8-B-SEP2020	N	Bis(2-ethylhexyl)phthalate	1400	1400 B	1400 U		ug/kg	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285631-2 (BS)/ WG285631-2	Benzaldehyde	316.0	10 - 189	10 - 189	percent	J/None	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285545-2 (BS)/ WG285545-2	Caprolactam	36.17	46 - 117	10 - 117	percent	J/UJ	C	
WG285545-3 (BD)/ WG285545-3	3,3'-Dichlorobenzidine	135.9	22 - 121	10 - 121	percent	J/None	C	
WG285545-3 (BD)/ WG285545-3	Benzaldehyde	216.8	10 - 134	10 - 134	percent	J/None	C	
WG285545-3 (BD)/ WG285545-3	Caprolactam	36.35	46 - 117	10 - 117	percent	J/UJ	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP5-SEP2020	FD	Caprolactam	380	290 ULL	290 UJ		ug/kg	C
NHFLA-MW4OB-A-SEP2020	N	Caprolactam	380	280 ULL	280 UJ		ug/kg	C
NHFLA-MW4OB-B-SEP2020	N	Caprolactam	400	300 ULL	300 UJ		ug/kg	C
NHFLA-MW8-A-SEP2020	N	Caprolactam	320	240 ULL	240 UJ		ug/kg	C
NHFLA-MW8-B-SEP2020	N	Caprolactam	370	280 ULL	280 UJ		ug/kg	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, LCS RPD

The objective of laboratory control sample/laboratory control sample duplicate (LCS/LCSD) RPD analysis is to demonstrate acceptable method precision by the laboratory at the time of analysis. LCS/LCSD analyses are also performed to generate data that determines the long-term precision of the analytical method on various matrices. Non-homogenous samples can impact the apparent method precision. Summary forms were evaluated and compared to electronic data deliverables. Laboratory control sample/laboratory control sample duplicate RPD results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285545-3 (BD)/ WG285545-3	Benzaldehyde	58.11	< 20	< 20	rpd	J/UJ	Z	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS RPD for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP5-SEP2020	FD	Benzaldehyde	380	290 UL	290 UJ		ug/kg	Z
NHFLA-MW4OB-A-SEP2020	N	Benzaldehyde	380	280 UL	280 UJ		ug/kg	Z
NHFLA-MW4OB-B-SEP2020	N	Benzaldehyde	400	300 UL	300 UJ		ug/kg	Z
NHFLA-MW8-A-SEP2020	N	Benzaldehyde	320	240 UL	240 UJ		ug/kg	Z
NHFLA-MW8-B-SEP2020	N	Benzaldehyde	370	280 UL	280 UJ		ug/kg	Z

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, Prep Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of extraction found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-DUP5-SEP2020 (FD)/ SN7357-3		40.73	< 40	< 80	days	J/UJ	H2	Prep to Test Exceeds UWL
NHFLA-MW4OB-A-SEP2020 (N)/ SN7357-4		40.75	< 40	< 80	days	J/UJ	H2	Prep to Test Exceeds UWL
NHFLA-MW4OB-B-SEP2020 (N)/ SN7357-5		40.77	< 40	< 80	days	J/UJ	H2	Prep to Test Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Prep Hold Time for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP5-SEP2020	FD	1,4-Dioxane (p-Dioxane)	380	290 U	290 UJ		ug/kg	H2
NHFLA-MW4OB-A-SEP2020	N	1,4-Dioxane (p-Dioxane)	380	280 U	280 UJ		ug/kg	H2
NHFLA-MW4OB-B-SEP2020	N	1,4-Dioxane (p-Dioxane)	400	300 U	300 UJ		ug/kg	H2

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB10-SEP2020 (EB)/ SN7357-6	2,4,6-Tribromophenol	38.20	43 - 140	10 - 140	percent	J/UJ	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB10-SEP2020	EB	1,2,4,5-Tetrachlorobenzene	9.90	7.40 U	7.40 U		ug/l	I
NHFLA-EB10-SEP2020	EB	2,4,5-Trichlorophenol	25.0	19.0 U	19.0 UJ		ug/l	I
NHFLA-EB10-SEP2020	EB	2,4,6-Trichlorophenol	9.90	7.40 U	7.40 UJ		ug/l	I
NHFLA-EB10-SEP2020	EB	2,4-Dichlorophenol	9.90	7.40 U	7.40 UJ		ug/l	I
NHFLA-EB10-SEP2020	EB	2,4-Dimethylphenol	9.90	7.40 U	7.40 UJ		ug/l	I
NHFLA-EB10-SEP2020	EB	2,4-Dinitrophenol	25.0	19.0 U	19.0 UJ		ug/l	I
NHFLA-EB10-SEP2020	EB	2-Chlorophenol	9.90	7.40 U	7.40 UJ		ug/l	I
NHFLA-EB10-SEP2020	EB	2-Methylphenol (o-Cresol)	9.90	7.40 U	7.40 UJ		ug/l	I
NHFLA-EB10-SEP2020	EB	2-Nitrophenol	9.90	7.40 U	7.40 UJ		ug/l	I
NHFLA-EB10-SEP2020	EB	4,6-Dinitro-2-methylphenol	25.0	19.0 U	19.0 UJ		ug/l	I
NHFLA-EB10-SEP2020	EB	4-Chloro-3-methylphenol	9.90	7.40 U	7.40 UJ		ug/l	I
NHFLA-EB10-SEP2020	EB	4-Nitrophenol	25.0	19.0 U	19.0 UJ		ug/l	I
NHFLA-EB10-SEP2020	EB	Atrazine	9.90	7.40 U	7.40 U		ug/l	I
NHFLA-EB10-SEP2020	EB	Cresols, m- & p-	9.90	7.40 U	7.40 UJ		ug/l	I
NHFLA-EB10-SEP2020	EB	Pentachlorophenol	25.0	19.0 U	19.0 UJ		ug/l	I
NHFLA-EB10-SEP2020	EB	Phenol	9.90	7.40 U	7.40 UJ		ug/l	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7357

Location	Analysis
NHFLA-MW8	BNASIM

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	2-Methylnaphthalene	12.0	ND	22.0	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Acenaphthene	7.40	ND	22.0	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Acenaphthylene	ND	ND	22.0	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Anthracene	7.50	ND	22.0	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Benzo(a)anthracene	8.20	5.90	22.0	32.6	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Benzo(a)pyrene	7.20	6.30	22.0	13.3	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Benzo(b)fluoranthene	14.0	10.0	22.0	33.3	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Benzo(g,h,i)perylene	ND	6.10	22.0	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Benzo(k)fluoranthene	6.80	5.30	22.0	24.8	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Chrysene	14.0	12.0	22.0	15.4	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Dibenz(a,h)anthracene	ND	ND	22.0	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Fluoranthene	13.0	10.0	22.0	26.1	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Fluorene	15.0	7.20	22.0	70.3	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Indeno(1,2,3-c,d)pyrene	ND	8.50	22.0	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Naphthalene	ND	ND	22.0	NA	50	NA	OK

FD = Field Duplicate
RL = Reporting Limit
RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7357

Location	Analysis
NHFLA-MW8	BNASIM

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Phenanthrene	45.0	27.0	22.0	50.0	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Pyrene	23.0	17.0	22.0	30.0	50	NA	OK

Location	Analysis
NHFLA-MW8	LYDKHN

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Total Organic Carbon	31000	16000	820	63.8	50	Out	NA

Location	Analysis
NHFLA-MW8	SW6010

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Aluminum	16200	15500	59.0	4.42	50	OK	NA
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Antimony	0.400	0.410	1.60	2.47	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Arsenic	10.8	11.3	1.60	4.52	50	OK	NA
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Barium	66.5	57.5	0.980	14.5	50	OK	NA
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Beryllium	0.648	0.537	0.980	18.7	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Cadmium	0.415	0.510	0.980	20.5	50	NA	OK

FD = Field Duplicate
RL = Reporting Limit
RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7357

Location	Analysis
NHFLA-MW8	SW6010

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Calcium	25600	19700	20.0	26.0	50	OK	NA
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Chromium	19.3	18.2	2.00	5.87	50	OK	NA
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Cobalt	7.68	4.90	2.00	44.2	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Copper	26.8	24.9	4.90	7.35	50	OK	NA
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Iron	26800	26800	20.0	0.00	50	OK	NA
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Lead	20.8	17.8	0.980	15.5	50	OK	NA
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Magnesium	5940	3720	20.0	46.0	50	OK	NA
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Manganese	452	400	0.980	12.2	50	OK	NA
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Nickel	27.8	21.8	2.00	24.2	50	OK	NA
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Potassium	2240	2120	200	5.50	50	OK	NA
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Selenium	1.20	1.30	2.00	8.00	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Silver	0.290	0.270	2.00	7.14	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Sodium	281	284	200	1.06	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Thallium	0.980	1.20	2.90	20.2	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Vanadium	40.1	44.7	2.00	10.8	50	OK	NA

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7357

Location	Analysis
NHFLA-MW8	SW6010

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Zinc	88.1	69.3	2.00	23.9	50	OK	NA

Location	Analysis
NHFLA-MW8	SW7196

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Chromium, Hexavalent	ND	ND	0.580	NA	50	NA	OK

Location	Analysis
NHFLA-MW8	SW7471

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Mercury	0.0690	0.0728	0.0340	5.36	50	NA	OK

Location	Analysis
NHFLA-MW8	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	1,1,1-Trichloroethane	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	1,1,2,2-Tetrachloroethane	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ND	5.00	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7357

Location	Analysis
NHFLA-MW8	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	1,1,2-Trichloroethane	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	1,1-Dichloroethane	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	1,1-Dichloroethene	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	1,2,3-Trichlorobenzene	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	1,2,4-Trichlorobenzene	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	1,2-Dibromo-3-chloropropane	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	1,2-Dibromoethane (EDB)	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	1,2-Dichlorobenzene	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	1,2-Dichloroethane	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	1,2-Dichloropropane	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	1,3-Dichlorobenzene	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	1,4-Dichlorobenzene	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	2-Butanone (MEK)	29.0	22.0	25.0	27.5	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	2-Hexanone	ND	ND	25.0	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	4-Methyl-2-pentanone (MIBK)	ND	ND	25.0	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7357

Location	Analysis
NHFLA-MW8	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Acetone	140	120	25.0	15.4	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Benzene	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Bromochloromethane	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Bromodichloromethane	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Bromoform	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Bromomethane	ND	ND	10.0	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Carbon disulfide	0.950	1.10	5.00	14.6	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Carbon tetrachloride	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Chlorobenzene	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Chloroethane	ND	ND	10.0	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Chloroform	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Chloromethane	ND	ND	10.0	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	cis-1,2-Dichloroethene	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	cis-1,3-Dichloropropene	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Cyclohexane	ND	ND	5.00	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7357

Location	Analysis
NHFLA-MW8	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Dibromochloromethane	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Dichlorodifluoromethane	ND	ND	10.0	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Ethylbenzene	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Isopropylbenzene (Cumene)	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	m,p-Xylene	ND	ND	10.0	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Methyl acetate	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Methyl tert-butyl ether (MTBE)	1.50	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Methylcyclohexane	1.80	0.980	5.00	59.0	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Methylene chloride	8.80	ND	25.0	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	o-Xylene	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Styrene	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Tetrachloroethene (PCE)	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Toluene	4.70	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	trans-1,2-Dichloroethene	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	trans-1,3-Dichloropropene	ND	ND	5.00	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7357

Location	Analysis
NHFLA-MW8	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Trichloroethene (TCE)	ND	ND	5.00	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Trichlorofluoromethane	ND	ND	10.0	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Vinyl chloride	ND	ND	10.0	NA	50	NA	OK

Location	Analysis
NHFLA-MW8	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	1,2,4,5-Tetrachlorobenzene	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	1,4-Dioxane (p-Dioxane)	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	2,2'-Oxybis(1-chloropropane)	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	2,4,5-Trichlorophenol	ND	ND	920	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	2,4,6-Trichlorophenol	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	2,4-Dichlorophenol	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	2,4-Dimethylphenol	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	2,4-Dinitrophenol	ND	ND	920	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	2,4-Dinitrotoluene	ND	ND	370	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7357

Location	Analysis
NHFLA-MW8	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	2,6-Dinitrotoluene	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	2-Chloronaphthalene	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	2-Chlorophenol	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	2-Methylphenol (o-Cresol)	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	2-Nitroaniline	ND	ND	920	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	2-Nitrophenol	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	3,3'-Dichlorobenzidine	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	3-Nitroaniline	ND	ND	920	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	4,6-Dinitro-2-methylphenol	ND	ND	920	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	4-Bromophenyl phenyl ether	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	4-Chloro-3-methylphenol	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	4-Chloroaniline	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	4-Chlorophenyl phenyl ether	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	4-Nitroaniline	ND	ND	920	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	4-Nitrophenol	ND	ND	920	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7357

Location	Analysis
NHFLA-MW8	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Acetophenone	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Atrazine	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Benzaldehyde	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Benzyl butyl phthalate	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Biphenyl (Diphenyl)	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Bis(2-chloroethoxy)methane	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Bis(2-ethylhexyl)phthalate	ND	ND	1400	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Caprolactam	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Carbazole	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Cresols, m- & p-	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Di-n-butyl phthalate	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	di-n-Octyl phthalate	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Dibenzofuran	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Diethyl phthalate	ND	ND	370	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7357

Location	Analysis
NHFLA-MW8	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Dimethyl phthalate	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Hexachlorobenzene	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Hexachlorobutadiene	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Hexachlorocyclopentadiene	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Hexachloroethane	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Isophorone	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	N-Nitrosodi-n-propylamine	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	N-Nitrosodiphenylamine	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Nitrobenzene	ND	ND	370	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Pentachlorophenol	ND	ND	920	NA	50	NA	OK
NHFLA-MW8-B-SEP2020 / NHFLA-DUP5-SEP2020	SN7357-2 / SN7357-3	Phenol	ND	ND	370	NA	50	NA	OK

FD = Field Duplicate
RL = Reporting Limit
RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Table of All Qualified Results

Test Method: BNASIM	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB10-SEP2020	EB	Indeno(1,2,3-c,d)pyrene	0.200	0.0990 UL	0.0990 UJ		ug/l	C

Test Method: LYDKHN	Extraction Method: METHOD							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP5-SEP2020	FD	Total Organic Carbon	510	16000	16000 J	-	ug/g	D3
NHFLA-MW8-B-SEP2020	N	Total Organic Carbon	820	31000	31000 J	-	ug/g	D3

Test Method: SW6020	Extraction Method: SW3010							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB10-SEP2020	EB	Aluminum	200	17.0 J	80.0 U		ug/l	L
NHFLA-EB10-SEP2020	EB	Copper	6.00	1.60 J	4.00 U		ug/l	L
NHFLA-EB10-SEP2020	EB	Magnesium	200	24.0 J	160 U		ug/l	L

Test Method: SW7196	Extraction Method: NONE							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB10-SEP2020	EB	Chromium, Hexavalent	0.0250	0.00140 J	0.0125 U		mg/l	L

Test Method: SW7470	Extraction Method: METHOD							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB10-SEP2020	EB	Mercury	0.200	0.0580 J	0.100 U		ug/l	L

Test Method: SW8260	Extraction Method: SW5035							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW4OB-A-SEP2020	N	1,1,1-Trichloroethane	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	1,1,2,2-Tetrachloroethane	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	1,1,2-Trichloroethane	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	1,1-Dichloroethane	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	1,1-Dichloroethene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	1,2,3-Trichlorobenzene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	1,2,4-Trichlorobenzene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	1,2-Dibromo-3-chloropropane	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	1,2-Dibromoethane (EDB)	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	1,2-Dichlorobenzene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	1,2-Dichloroethane	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	1,2-Dichloropropane	5.30	2.60 U	2.60 UJ		ug/kg	I

Table of All Qualified Results

Test Method: SW8260	Extraction Method: SW5035							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW4OB-A-SEP2020	N	1,3-Dichlorobenzene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	1,4-Dichlorobenzene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	2-Butanone (MEK)	26.0	13.0 U	13.0 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	2-Hexanone	26.0	13.0 U	13.0 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	4-Methyl-2-pentanone (MIBK)	26.0	13.0 U	13.0 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Acetone	26.0	13.0 U	13.0 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Benzene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Bromochloromethane	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Bromodichloromethane	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Bromoform	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Bromomethane	10.0	5.30 U	5.30 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Carbon disulfide	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Carbon tetrachloride	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Chlorobenzene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Chloroethane	10.0	5.30 U	5.30 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Chloroform	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Chloromethane	10.0	5.30 U	5.30 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	cis-1,2-Dichloroethene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	cis-1,3-Dichloropropene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Cyclohexane	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Dibromochloromethane	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Dichlorodifluoromethane	10.0	5.30 U	5.30 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Ethylbenzene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Isopropylbenzene (Cumene)	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	m,p-Xylene	10.0	5.30 U	5.30 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Methyl acetate	5.30	3.20 U	3.20 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Methyl tert-butyl ether (MTBE)	5.30	2.60 U	2.60 UJ		ug/kg	I

Table of All Qualified Results

Test Method: SW8260	Extraction Method: SW5035							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW4OB-A-SEP2020	N	Methylcyclohexane	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Methylene chloride	26.0	15.0 J	15.0 J		ug/kg	I/TR
NHFLA-MW4OB-A-SEP2020	N	o-Xylene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Styrene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Tetrachloroethene (PCE)	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Toluene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	trans-1,2-Dichloroethene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	trans-1,3-Dichloropropene	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Trichloroethene (TCE)	5.30	2.60 U	2.60 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Trichlorofluoromethane	10.0	5.30 U	5.30 UJ		ug/kg	I
NHFLA-MW4OB-A-SEP2020	N	Vinyl chloride	10.0	5.30 U	5.30 UJ		ug/kg	I
NHFLA-MW4OB-B-SEP2020	N	Methylene chloride	25.0	8.00 J	8.00 J	+	ug/kg	I/TR
NHFLA-MW8-A-SEP2020	N	Methylene chloride	24.0	8.50 J	8.50 J		ug/kg	I/TR
NHFLA-MW8-B-SEP2020	N	1,1,1-Trichloroethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	1,1,2,2-Tetrachloroethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	1,1,2-Trichloroethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	1,1-Dichloroethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	1,1-Dichloroethene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	1,2,3-Trichlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	1,2,4-Trichlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	1,2-Dibromo-3-chloropropane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	1,2-Dibromoethane (EDB)	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	1,2-Dichlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	1,2-Dichloroethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	1,2-Dichloropropane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	1,3-Dichlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	1,4-Dichlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	2-Butanone (MEK)	25.0	29.0	29.0 J	-	ug/kg	I
NHFLA-MW8-B-SEP2020	N	2-Hexanone	25.0	13.0 U	13.0 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	4-Methyl-2-pentanone (MIBK)	25.0	13.0 U	13.0 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Acetone	25.0	140	140 J	-	ug/kg	I
NHFLA-MW8-B-SEP2020	N	Benzene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Bromochloromethane	5.00	2.50 U	2.50 UJ		ug/kg	I

Table of All Qualified Results

Test Method: SW8260 Extraction Method: SW5035

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW8-B-SEP2020	N	Bromodichloromethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Bromoform	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Bromomethane	10.0	5.00 U	5.00 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Carbon disulfide	5.00	0.950 J	0.950 J	-	ug/kg	I/TR
NHFLA-MW8-B-SEP2020	N	Carbon tetrachloride	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Chlorobenzene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Chloroethane	10.0	5.00 U	5.00 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Chloroform	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Chloromethane	10.0	5.00 U	5.00 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	cis-1,2-Dichloroethene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	cis-1,3-Dichloropropene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Cyclohexane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Dibromochloromethane	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Dichlorodifluoromethane	10.0	5.00 U	5.00 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Ethylbenzene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Isopropylbenzene (Cumene)	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	m,p-Xylene	10.0	5.00 U	5.00 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Methyl acetate	5.00	3.00 U	3.00 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Methyl tert-butyl ether (MTBE)	5.00	1.50 J	1.50 J	-	ug/kg	I/TR
NHFLA-MW8-B-SEP2020	N	Methylcyclohexane	5.00	1.80 J	1.80 J	-	ug/kg	I/TR
NHFLA-MW8-B-SEP2020	N	Methylene chloride	25.0	8.80 J	8.80 J	-	ug/kg	I/TR
NHFLA-MW8-B-SEP2020	N	o-Xylene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Styrene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Tetrachloroethene (PCE)	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Toluene	5.00	4.70 J	4.70 J	-	ug/kg	I/TR
NHFLA-MW8-B-SEP2020	N	trans-1,2-Dichloroethene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	trans-1,3-Dichloropropene	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Trichloroethene (TCE)	5.00	2.50 U	2.50 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Trichlorofluoromethane	10.0	5.00 U	5.00 UJ		ug/kg	I
NHFLA-MW8-B-SEP2020	N	Vinyl chloride	10.0	5.00 U	5.00 UJ		ug/kg	I

Test Method: SW8270 Extraction Method: SW3510

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB10-SEP2020	EB	1,2,4,5-Tetrachlorobenzene	9.90	7.40 U	7.40 U		ug/l	I
NHFLA-EB10-SEP2020	EB	2,4,5-Trichlorophenol	25.0	19.0 U	19.0 UJ		ug/l	I
NHFLA-EB10-SEP2020	EB	2,4,6-Trichlorophenol	9.90	7.40 U	7.40 UJ		ug/l	I
NHFLA-EB10-SEP2020	EB	2,4-Dichlorophenol	9.90	7.40 U	7.40 UJ		ug/l	I
NHFLA-EB10-SEP2020	EB	2,4-Dimethylphenol	9.90	7.40 U	7.40 UJ		ug/l	I
NHFLA-EB10-SEP2020	EB	2,4-Dinitrophenol	25.0	19.0 U	19.0 UJ		ug/l	I
NHFLA-EB10-SEP2020	EB	2-Chlorophenol	9.90	7.40 U	7.40 UJ		ug/l	I
NHFLA-EB10-SEP2020	EB	2-Methylphenol (o-Cresol)	9.90	7.40 U	7.40 UJ		ug/l	I
NHFLA-EB10-SEP2020	EB	2-Nitrophenol	9.90	7.40 U	7.40 UJ		ug/l	I

Table of All Qualified Results

Test Method: SW8270	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB10-SEP2020	EB	4,6-Dinitro-2-methylphenol	25.0	19.0 U	19.0 UJ		ug/l	I
NHFLA-EB10-SEP2020	EB	4-Chloro-3-methylphenol	9.90	7.40 U	7.40 UJ		ug/l	I
NHFLA-EB10-SEP2020	EB	4-Nitrophenol	25.0	19.0 U	19.0 UJ		ug/l	I
NHFLA-EB10-SEP2020	EB	Atrazine	9.90	7.40 U	7.40 U		ug/l	I
NHFLA-EB10-SEP2020	EB	Cresols, m- & p-	9.90	7.40 U	7.40 UJ		ug/l	I
NHFLA-EB10-SEP2020	EB	Pentachlorophenol	25.0	19.0 U	19.0 UJ		ug/l	I
NHFLA-EB10-SEP2020	EB	Phenol	9.90	7.40 U	7.40 UJ		ug/l	I
NHFLA-EB10-SEP2020	EB	Bis(2-ethylhexyl)phthalate	16.0	16.0	16.0 U		ug/l	L

Test Method: SW8270	Extraction Method: SW3550							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP5-SEP2020	FD	1,4-Dioxane (p-Dioxane)	380	290 U	290 UJ		ug/kg	H2
NHFLA-DUP5-SEP2020	FD	Bis(2-ethylhexyl)phthalate	2000	2000 B	2000 U		ug/kg	L
NHFLA-DUP5-SEP2020	FD	Caprolactam	380	290 ULL	290 UJ		ug/kg	C
NHFLA-DUP5-SEP2020	FD	Benzaldehyde	380	290 UL	290 UJ		ug/kg	Z
NHFLA-MW4OB-A-SEP2020	N	1,4-Dioxane (p-Dioxane)	380	280 U	280 UJ		ug/kg	H2
NHFLA-MW4OB-A-SEP2020	N	Bis(2-ethylhexyl)phthalate	1200	1200 B	1200 U		ug/kg	L
NHFLA-MW4OB-A-SEP2020	N	Caprolactam	380	280 ULL	280 UJ		ug/kg	C
NHFLA-MW4OB-A-SEP2020	N	Benzaldehyde	380	280 UL	280 UJ		ug/kg	Z
NHFLA-MW4OB-B-SEP2020	N	1,4-Dioxane (p-Dioxane)	400	300 U	300 UJ		ug/kg	H2
NHFLA-MW4OB-B-SEP2020	N	Bis(2-ethylhexyl)phthalate	660	660 B	660 U		ug/kg	L
NHFLA-MW4OB-B-SEP2020	N	Caprolactam	400	300 ULL	300 UJ		ug/kg	C
NHFLA-MW4OB-B-SEP2020	N	Benzaldehyde	400	300 UL	300 UJ		ug/kg	Z
NHFLA-MW8-A-SEP2020	N	Caprolactam	320	240 ULL	240 UJ		ug/kg	C
NHFLA-MW8-A-SEP2020	N	Benzaldehyde	320	240 UL	240 UJ		ug/kg	Z
NHFLA-MW8-B-SEP2020	N	Bis(2-ethylhexyl)phthalate	1400	1400 B	1400 U		ug/kg	L
NHFLA-MW8-B-SEP2020	N	Caprolactam	370	280 ULL	280 UJ		ug/kg	C
NHFLA-MW8-B-SEP2020	N	Benzaldehyde	370	280 UL	280 UJ		ug/kg	Z

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP5-SEP2020	FD	Benzo(a)anthracene	23.0	5.90 J	5.90 J	5.90 J	TR
NHFLA-DUP5-SEP2020	FD	Benzo(a)pyrene	23.0	6.30 J	6.30 J	6.30 J	TR
NHFLA-DUP5-SEP2020	FD	Benzo(b)fluoranthene	23.0	10.0 J	10.0 J	10.0 J	TR
NHFLA-DUP5-SEP2020	FD	Benzo(g,h,i)perylene	23.0	6.10 J	6.10 J	6.10 J	TR
NHFLA-DUP5-SEP2020	FD	Benzo(k)fluoranthene	23.0	5.30 J	5.30 J	5.30 J	TR
NHFLA-DUP5-SEP2020	FD	Chrysene	23.0	12.0 J	12.0 J	12.0 J	TR
NHFLA-DUP5-SEP2020	FD	Dibenz(a,h)anthracene	23.0	12.0 U	12.0 UJ	12.0 U	
NHFLA-DUP5-SEP2020	FD	Fluoranthene	23.0	10.0 J	10.0 J	10.0 J	TR
NHFLA-DUP5-SEP2020	FD	Indeno(1,2,3-c,d)pyrene	23.0	8.50 J	8.50 J	8.50 J	TR
NHFLA-DUP5-SEP2020	FD	Phenanthrene	23.0	27.0	27.0 J	27.0	
NHFLA-DUP5-SEP2020	FD	Pyrene	23.0	17.0 J	17.0 J	17.0 J	TR
NHFLA-MW8-A-SEP2020	N	Benzo(a)anthracene	20.0	280	280 J	280	
NHFLA-MW8-A-SEP2020	N	Benzo(a)pyrene	20.0	450	450 J	450	
NHFLA-MW8-A-SEP2020	N	Benzo(b)fluoranthene	39.0	450	450 J	450	
NHFLA-MW8-A-SEP2020	N	Benzo(g,h,i)perylene	39.0	440	440 J	440	
NHFLA-MW8-A-SEP2020	N	Benzo(k)fluoranthene	20.0	300	300 J	300	
NHFLA-MW8-A-SEP2020	N	Chrysene	20.0	310	310 J	310	
NHFLA-MW8-A-SEP2020	N	Dibenz(a,h)anthracene	20.0	64.0	64.0 J	64.0	
NHFLA-MW8-A-SEP2020	N	Fluoranthene	20.0	280	280 J	280	
NHFLA-MW8-A-SEP2020	N	Indeno(1,2,3-c,d)pyrene	20.0	430	430 J	430	
NHFLA-MW8-A-SEP2020	N	Phenanthrene	20.0	97.0	97.0 J	97.0	
NHFLA-MW8-A-SEP2020	N	Pyrene	20.0	430	430 J	430	
NHFLA-MW8-B-SEP2020	N	Benzo(a)anthracene	22.0	8.20 J	8.20 J	8.20 J	TR
NHFLA-MW8-B-SEP2020	N	Benzo(a)pyrene	22.0	7.20 J	7.20 J	7.20 J	TR
NHFLA-MW8-B-SEP2020	N	Benzo(b)fluoranthene	22.0	14.0 J	14.0 J	14.0 J	TR
NHFLA-MW8-B-SEP2020	N	Benzo(g,h,i)perylene	22.0	11.0 U	11.0 UJ	11.0 U	
NHFLA-MW8-B-SEP2020	N	Benzo(k)fluoranthene	22.0	6.80 J	6.80 J	6.80 J	TR
NHFLA-MW8-B-SEP2020	N	Chrysene	22.0	14.0 J	14.0 J	14.0 J	TR
NHFLA-MW8-B-SEP2020	N	Dibenz(a,h)anthracene	22.0	11.0 U	11.0 UJ	11.0 U	
NHFLA-MW8-B-SEP2020	N	Fluoranthene	22.0	13.0 J	13.0 J	13.0 J	TR
NHFLA-MW8-B-SEP2020	N	Indeno(1,2,3-c,d)pyrene	22.0	11.0 U	11.0 UJ	11.0 U	
NHFLA-MW8-B-SEP2020	N	Phenanthrene	22.0	45.0	45.0 J	45.0	
NHFLA-MW8-B-SEP2020	N	Pyrene	22.0	23.0	23.0 J	23.0	

Modified Qualifiers for test method LYDKHN

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP5-SEP2020	FD	Total Organic Carbon	510	16000	16000 J	16000 J	D3
NHFLA-MW4OB-A-SEP2020	N	Total Organic Carbon	840	34000	34000 J	34000	
NHFLA-MW4OB-B-SEP2020	N	Total Organic Carbon	670	20000	20000 J	20000	
NHFLA-MW8-A-SEP2020	N	Total Organic Carbon	680	55000	55000 J	55000	
NHFLA-MW8-B-SEP2020	N	Total Organic Carbon	820	31000	31000 J	31000 J	D3

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP5-SEP2020	FD	Arsenic	1.60	11.3	11.3 J	11.3	
NHFLA-DUP5-SEP2020	FD	Barium	0.980	57.5	57.5 J	57.5	
NHFLA-DUP5-SEP2020	FD	Calcium	20.0	19700	19700 J	19700	
NHFLA-DUP5-SEP2020	FD	Cobalt	2.00	4.90	4.90 J	4.90	
NHFLA-DUP5-SEP2020	FD	Lead	0.980	17.8	17.8 J	17.8	
NHFLA-DUP5-SEP2020	FD	Magnesium	20.0	3720	3720 J	3720	
NHFLA-DUP5-SEP2020	FD	Manganese	0.980	400	400 J	400	
NHFLA-DUP5-SEP2020	FD	Nickel	2.00	21.8	21.8 J	21.8	
NHFLA-DUP5-SEP2020	FD	Potassium	200	2120	2120 J	2120	
NHFLA-DUP5-SEP2020	FD	Vanadium	2.00	44.7	44.7 J	44.7	
NHFLA-DUP5-SEP2020	FD	Zinc	2.00	69.3	69.3 J	69.3	
NHFLA-MW4OB-A-SEP2020	N	Sodium	190	156 J	190 U	156 J	TR
NHFLA-MW8-A-SEP2020	N	Arsenic	0.830	3.90	3.90 J	3.90	
NHFLA-MW8-A-SEP2020	N	Barium	2.60	136	136 J	136	
NHFLA-MW8-A-SEP2020	N	Calcium	52.0	140000	140000 J	140000	
NHFLA-MW8-A-SEP2020	N	Cobalt	1.00	2.57	2.57 J	2.57	
NHFLA-MW8-A-SEP2020	N	Lead	0.520	73.5	73.5 J	73.5	
NHFLA-MW8-A-SEP2020	N	Magnesium	10.0	14800	14800 J	14800	
NHFLA-MW8-A-SEP2020	N	Manganese	0.520	1420	1420 J	1420	
NHFLA-MW8-A-SEP2020	N	Nickel	1.00	11.0	11.0 J	11.0	
NHFLA-MW8-A-SEP2020	N	Potassium	520	1030	1030 J	1030	
NHFLA-MW8-A-SEP2020	N	Vanadium	5.20	12.4	12.4 J	12.4	
NHFLA-MW8-A-SEP2020	N	Zinc	2.10	514	514 J	514	
NHFLA-MW8-B-SEP2020	N	Arsenic	1.60	10.8	10.8 J	10.8	
NHFLA-MW8-B-SEP2020	N	Barium	0.980	66.5	66.5 J	66.5	
NHFLA-MW8-B-SEP2020	N	Calcium	20.0	25600	25600 J	25600	
NHFLA-MW8-B-SEP2020	N	Cobalt	2.00	7.68	7.68 J	7.68	
NHFLA-MW8-B-SEP2020	N	Lead	0.980	20.8	20.8 J	20.8	
NHFLA-MW8-B-SEP2020	N	Magnesium	20.0	5940	5940 J	5940	
NHFLA-MW8-B-SEP2020	N	Manganese	0.980	452	452 J	452	
NHFLA-MW8-B-SEP2020	N	Nickel	2.00	27.8	27.8 J	27.8	
NHFLA-MW8-B-SEP2020	N	Potassium	200	2240	2240 J	2240	
NHFLA-MW8-B-SEP2020	N	Vanadium	2.00	40.1	40.1 J	40.1	
NHFLA-MW8-B-SEP2020	N	Zinc	2.00	88.1	88.1 J	88.1	

Modified Qualifiers for test method SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP5-SEP2020	FD	Chromium, Hexavalent	0.580	0.350 U	0.350 X	0.350 U	
NHFLA-MW4OB-A-SEP2020	N	Chromium, Hexavalent	0.570	0.250 J	0.250 J	0.250 J	TR
NHFLA-MW4OB-B-SEP2020	N	Chromium, Hexavalent	0.610	0.360 J	0.360 J	0.360 J	TR
NHFLA-MW8-A-SEP2020	N	Chromium, Hexavalent	0.540	0.320 U	0.320 X	0.320 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW8-B-SEP2020	N	Chromium, Hexavalent	0.580	0.350 U	0.350 X	0.350 U	

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP5-SEP2020	FD	Acetone	25.0	120	120 J	120	
NHFLA-MW8-A-SEP2020	N	1,1,1-Trichloroethane	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	1,1,2,2-Tetrachloroethane	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	1,1,2-Trichloroethane	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	1,1-Dichloroethane	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	1,1-Dichloroethene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	1,2,3-Trichlorobenzene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	1,2,4-Trichlorobenzene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	1,2-Dibromo-3-chloropropane	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	1,2-Dibromoethane (EDB)	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	1,2-Dichlorobenzene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	1,2-Dichloroethane	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	1,2-Dichloropropane	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	1,3-Dichlorobenzene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	1,4-Dichlorobenzene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	2-Butanone (MEK)	24.0	12.0 U	12.0 UJ	12.0 U	
NHFLA-MW8-A-SEP2020	N	2-Hexanone	24.0	12.0 U	12.0 UJ	12.0 U	
NHFLA-MW8-A-SEP2020	N	4-Methyl-2-pentanone (MIBK)	24.0	12.0 U	12.0 UJ	12.0 U	
NHFLA-MW8-A-SEP2020	N	Acetone	24.0	12.0 U	12.0 UJ	12.0 U	
NHFLA-MW8-A-SEP2020	N	Benzene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	Bromochloromethane	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	Bromodichloromethane	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	Bromoform	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	Bromomethane	9.60	4.80 U	4.80 UJ	4.80 U	
NHFLA-MW8-A-SEP2020	N	Carbon disulfide	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	Carbon tetrachloride	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	Chlorobenzene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	Chloroethane	9.60	4.80 U	4.80 UJ	4.80 U	
NHFLA-MW8-A-SEP2020	N	Chloroform	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	Chloromethane	9.60	4.80 U	4.80 UJ	4.80 U	
NHFLA-MW8-A-SEP2020	N	cis-1,2-Dichloroethene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	cis-1,3-Dichloropropene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	Cyclohexane	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	Dibromochloromethane	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	Dichlorodifluoromethane	9.60	4.80 U	4.80 UJ	4.80 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW8-A-SEP2020	N	Ethylbenzene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	Isopropylbenzene (Cumene)	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	m,p-Xylene	9.60	4.80 U	4.80 UJ	4.80 U	
NHFLA-MW8-A-SEP2020	N	Methyl acetate	4.80	2.90 U	2.90 UJ	2.90 U	
NHFLA-MW8-A-SEP2020	N	Methyl tert-butyl ether (MTBE)	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	Methylcyclohexane	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	Methylene chloride	24.0	8.50 J	8.50 J	8.50 J	I/TR
NHFLA-MW8-A-SEP2020	N	o-Xylene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	Styrene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	Tetrachloroethene (PCE)	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	Toluene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	trans-1,2-Dichloroethene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	trans-1,3-Dichloropropene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	Trichloroethene (TCE)	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-MW8-A-SEP2020	N	Trichlorofluoromethane	9.60	4.80 U	4.80 UJ	4.80 U	
NHFLA-MW8-A-SEP2020	N	Vinyl chloride	9.60	4.80 U	4.80 UJ	4.80 U	
NHFLA-MW8-B-SEP2020	N	Acetone	25.0	140	140 J	140 J	I

Modified Qualifiers for test method SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB10-SEP2020	EB	1,2,4,5-Tetrachlorobenzene	9.90	7.40 U	7.40 UJ	7.40 U	I
NHFLA-EB10-SEP2020	EB	1,4-Dioxane (p-Dioxane)	9.90	7.40 U	7.40 UJ	7.40 U	
NHFLA-EB10-SEP2020	EB	2,2'-Oxybis(1-chloropropane)	9.90	7.40 U	7.40 UJ	7.40 U	
NHFLA-EB10-SEP2020	EB	2,4-Dinitrotoluene	9.90	7.40 U	7.40 UJ	7.40 U	
NHFLA-EB10-SEP2020	EB	2,6-Dinitrotoluene	9.90	7.40 U	7.40 UJ	7.40 U	
NHFLA-EB10-SEP2020	EB	2-Chloronaphthalene	9.90	7.40 U	7.40 UJ	7.40 U	
NHFLA-EB10-SEP2020	EB	2-Nitroaniline	25.0	19.0 U	19.0 UJ	19.0 U	
NHFLA-EB10-SEP2020	EB	3,3'-Dichlorobenzidine	9.90	7.40 U	7.40 UJ	7.40 U	
NHFLA-EB10-SEP2020	EB	3-Nitroaniline	25.0	19.0 U	19.0 UJ	19.0 U	
NHFLA-EB10-SEP2020	EB	4-Bromophenyl phenyl ether	9.90	7.40 U	7.40 UJ	7.40 U	
NHFLA-EB10-SEP2020	EB	4-Chloroaniline	9.90	7.40 U	7.40 UJ	7.40 U	
NHFLA-EB10-SEP2020	EB	4-Chlorophenyl phenyl ether	9.90	7.40 U	7.40 UJ	7.40 U	
NHFLA-EB10-SEP2020	EB	4-Nitroaniline	25.0	19.0 U	19.0 UJ	19.0 U	
NHFLA-EB10-SEP2020	EB	Acetophenone	9.90	7.40 U	7.40 UJ	7.40 U	
NHFLA-EB10-SEP2020	EB	Atrazine	9.90	7.40 U	7.40 UJ	7.40 U	I
NHFLA-EB10-SEP2020	EB	Benzaldehyde	9.90	7.40 UL	7.40 UJ	7.40 U	
NHFLA-EB10-SEP2020	EB	Benzyl butyl phthalate	9.90	7.40 U	7.40 UJ	7.40 U	
NHFLA-EB10-SEP2020	EB	Biphenyl (Diphenyl)	9.90	7.40 U	7.40 UJ	7.40 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB10-SEP2020	EB	Bis(2-chloroethoxy)methane	9.90	7.40 U	7.40 UJ	7.40 U	
NHFLA-EB10-SEP2020	EB	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.90	7.40 U	7.40 UJ	7.40 U	
NHFLA-EB10-SEP2020	EB	Bis(2-ethylhexyl)phthalate	16.0	16.0	16.0 J	16.0 U	L
NHFLA-EB10-SEP2020	EB	Caprolactam	9.90	7.40 U	7.40 UJ	7.40 U	
NHFLA-EB10-SEP2020	EB	Carbazole	9.90	7.40 U	7.40 UJ	7.40 U	
NHFLA-EB10-SEP2020	EB	Dibenzofuran	9.90	7.40 U	7.40 UJ	7.40 U	
NHFLA-EB10-SEP2020	EB	Diethyl phthalate	9.90	7.40 U	7.40 UJ	7.40 U	
NHFLA-EB10-SEP2020	EB	Dimethyl phthalate	9.90	7.40 U	7.40 UJ	7.40 U	
NHFLA-EB10-SEP2020	EB	Di-n-butyl phthalate	9.90	7.40 U	7.40 UJ	7.40 U	
NHFLA-EB10-SEP2020	EB	di-n-Octyl phthalate	9.90	7.40 U	7.40 UJ	7.40 U	
NHFLA-EB10-SEP2020	EB	Hexachlorobenzene	9.90	7.40 U	7.40 UJ	7.40 U	
NHFLA-EB10-SEP2020	EB	Hexachlorobutadiene	9.90	7.40 U	7.40 UJ	7.40 U	
NHFLA-EB10-SEP2020	EB	Hexachlorocyclopentadiene	9.90	7.40 U	7.40 UJ	7.40 U	
NHFLA-EB10-SEP2020	EB	Hexachloroethane	9.90	7.40 U	7.40 UJ	7.40 U	
NHFLA-EB10-SEP2020	EB	Isophorone	9.90	7.40 U	7.40 UJ	7.40 U	
NHFLA-EB10-SEP2020	EB	Nitrobenzene	9.90	7.40 U	7.40 UJ	7.40 U	
NHFLA-EB10-SEP2020	EB	N-Nitrosodi-n-propylamine	9.90	7.40 U	7.40 UJ	7.40 U	
NHFLA-EB10-SEP2020	EB	N-Nitrosodiphenylamine	9.90	7.40 U	7.40 UJ	7.40 U	

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP5-SEP2020	FD	Bis(2-ethylhexyl)phthalate	2000	2000 B	2000 J	2000 U	L
NHFLA-MW4OB-A-SEP2020	N	Bis(2-ethylhexyl)phthalate	1200	1200 B	1200 J	1200 U	L
NHFLA-MW4OB-B-SEP2020	N	Bis(2-ethylhexyl)phthalate	660	660 B	660 J	660 U	L
NHFLA-MW8-B-SEP2020	N	Bis(2-ethylhexyl)phthalate	1400	1400 B	1400 J	1400 U	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Automated Data Review Detail Report for SN7357
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Rejected Results

--No Records Found--

Automated Data Review Detail Report for SN7357
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
SW6010/SW3050/NONE	5	39
SW6020/SW3010/NONE	1	8
SW7196/SW3060/NONE	5	5
SW7471/METHOD/NONE	1	1
SW8260/SW5035/NONE	2	4
SW8270/SW3510/NONE	1	1
SW8270/SW3550/NONE	4	120

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-DUP5-SEP2020	FD	2	Antimony	0.410 J	0.140	0.980	1.60	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP5-SEP2020	FD	2	Arsenic	11.3	0.130	0.980	1.60	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP5-SEP2020	FD	2	Cadmium	0.510 J	0.0160	0.590	0.980	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP5-SEP2020	FD	2	Cobalt	4.90	0.0570	0.790	2.00	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP5-SEP2020	FD	2	Selenium	1.30 J	0.330	1.40	2.00	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP5-SEP2020	FD	2	Silver	0.270 J	0.0530	0.790	2.00	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP5-SEP2020	FD	2	Thallium	1.20 J	0.170	0.980	3.00	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW4OB-A-SEP2020	N	2	Antimony	0.560 J	0.140	0.970	1.60	0.09	mg/Kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-MW4OB-A-SEP2020	N	2	Arsenic	13.8	0.130	0.970	1.60	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW4OB-A-SEP2020	N	2	Cadmium	0.421 J	0.0150	0.580	0.970	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW4OB-A-SEP2020	N	2	Cobalt	4.90	0.0560	0.780	1.90	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW4OB-A-SEP2020	N	2	Selenium	2.40	0.330	1.40	1.90	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW4OB-A-SEP2020	N	2	Silver	0.300 J	0.0530	0.780	1.90	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW4OB-A-SEP2020	N	2	Thallium	0.750 J	0.170	0.970	2.90	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW4OB-B-SEP2020	N	1	Antimony	0.140 J	0.0700	0.500	0.800	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW4OB-B-SEP2020	N	1	Arsenic	9.64	0.0680	0.500	0.800	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW4OB-B-SEP2020	N	1	Cadmium	0.300 U	0.00790	0.300	0.500	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW4OB-B-SEP2020	N	1	Cobalt	2.46	0.0290	0.400	1.00	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW4OB-B-SEP2020	N	1	Selenium	1.50	0.170	0.700	1.00	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW4OB-B-SEP2020	N	1	Thallium	1.71	0.0860	0.500	1.50	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW8-A-SEP2020	N	1	Antimony	0.230 J	0.0730	0.520	0.830	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW8-A-SEP2020	N	1	Arsenic	3.90	0.0710	0.520	0.830	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW8-A-SEP2020	N	1	Cadmium	0.764	0.00820	0.310	0.520	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW8-A-SEP2020	N	5	Calcium	140000	9.30	42.0	52.0	50	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW8-A-SEP2020	N	1	Cobalt	2.57	0.0300	0.420	1.00	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW8-A-SEP2020	N	5	Copper	18.4	0.830	5.20	13.0	9.333333	mg/Kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-MW8-A-SEP2020	N	5	Potassium	1030	15.0	260	520	500	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW8-A-SEP2020	N	1	Selenium	1.20	0.180	0.730	1.00	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW8-A-SEP2020	N	5	Silver	0.260 J	0.140	2.10	5.20	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW8-A-SEP2020	N	5	Sodium	543	7.80	260	520	500	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW8-A-SEP2020	N	1	Thallium	0.520 U	0.0890	0.520	1.60	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW8-A-SEP2020	N	5	Vanadium	12.4	0.190	2.10	5.20	2.6	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW8-B-SEP2020	N	2	Antimony	0.400 J	0.140	0.980	1.60	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW8-B-SEP2020	N	2	Arsenic	10.8	0.130	0.980	1.60	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW8-B-SEP2020	N	2	Cadmium	0.415 J	0.0160	0.590	0.980	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW8-B-SEP2020	N	2	Cobalt	7.68	0.0570	0.780	2.00	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW8-B-SEP2020	N	2	Selenium	1.20 J	0.330	1.40	2.00	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW8-B-SEP2020	N	2	Silver	0.290 J	0.0530	0.780	2.00	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW8-B-SEP2020	N	2	Thallium	0.980 J	0.170	0.980	2.90	0.016666	mg/Kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6020/SW3010/NONE	NHFLA-EB10-SEP2020	EB	20	Antimony	0.420 J	0.220	2.00	4.00	1	ug/L
SW6020/SW3010/NONE	NHFLA-EB10-SEP2020	EB	10	Arsenic	8.00 U	4.50	8.00	10.0	5	ug/L
SW6020/SW3010/NONE	NHFLA-EB10-SEP2020	EB	10	Beryllium	0.400 U	0.0670	0.400	2.00	1	ug/L
SW6020/SW3010/NONE	NHFLA-EB10-SEP2020	EB	10	Cadmium	0.110 J	0.0590	0.400	2.00	1	ug/L
SW6020/SW3010/NONE	NHFLA-EB10-SEP2020	EB	10	Cobalt	0.170 J	0.120	0.600	2.00	1	ug/L
SW6020/SW3010/NONE	NHFLA-EB10-SEP2020	EB	10	Selenium	6.00 U	0.370	6.00	10.0	5	ug/L

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6020/SW3010/NONE	NHFLA-EB10-SEP2020	EB	20	Thallium	1.60 U	0.240	1.60	4.00	1	ug/L
SW6020/SW3010/NONE	NHFLA-EB10-SEP2020	EB	10	Vanadium	8.00 U	1.00	8.00	10.0	5	ug/L

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7196/SW3060/NONE	NHFLA-DUP5-SEP2020	FD	1.2	Chromium, Hexavalent	0.350 U	0.170	0.350	0.580	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-MW4OB-A-SEP2020	N	1.2	Chromium, Hexavalent	0.250 J	0.170	0.340	0.570	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-MW4OB-B-SEP2020	N	1.2	Chromium, Hexavalent	0.360 J	0.180	0.360	0.610	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-MW8-A-SEP2020	N	1.2	Chromium, Hexavalent	0.320 U	0.160	0.320	0.540	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-MW8-B-SEP2020	N	1.2	Chromium, Hexavalent	0.350 U	0.170	0.350	0.580	0.4	mg/kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7471/METHOD/NONE	NHFLA-MW8-B-SEP2020	N	1	Mercury	0.0690	0.00530	0.0180	0.0340	0.033	mg/Kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8260/SW5035/NONE	NHFLA-DUP5-SEP2020	FD	1	1,2-Dibromo-3-chloropropane	2.50 U	1.50	2.50	5.10	5	ug/kg
SW8260/SW5035/NONE	NHFLA-DUP5-SEP2020	FD	1	Carbon disulfide	1.10 J	0.790	2.50	5.10	5	ug/kg
SW8260/SW5035/NONE	NHFLA-MW4OB-A-SEP2020	N	1	1,2-Dibromo-3-chloropropane	2.60 UJ	1.60	2.60	5.30	5	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8260/SW5035/NONE	NHFLA-MW4OB-A-SEP2020	N	1	Carbon disulfide	2.60 UJ	0.830	2.60	5.30	5	ug/kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3510/NONE	NHFLA-EB10-SEP2020	EB	1	bis(2-Ethylhexyl) phthalate	7.40 U	1.70	7.40	9.90	10	ug/L

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-DUP5-SEP2020	FD	1	1,2,4,5-Tetrachlorobenzene	290 U	160	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP5-SEP2020	FD	1	2,4-Dichlorophenol	290 U	170	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP5-SEP2020	FD	1	2,4-Dimethylphenol	290 U	190	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP5-SEP2020	FD	1	2,4-Dinitrophenol	710 U	440	710	950	820	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP5-SEP2020	FD	1	2,6-Dinitrotoluene	290 U	92.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP5-SEP2020	FD	1	2-Chlorophenol	290 U	190	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP5-SEP2020	FD	1	2-Methylphenol (o-Cresol)	290 U	230	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP5-SEP2020	FD	1	2-Nitroaniline	710 U	87.0	710	950	820	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP5-SEP2020	FD	1	3,3'-Dichlorobenzidine	290 U	130	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP5-SEP2020	FD	1	4,6-Dinitro-2-methylphenol	710 U	390	710	950	820	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP5-SEP2020	FD	1	4-Chloroaniline	290 U	140	290	380	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP5-SEP2020	FD	1	Atrazine	290 U	100	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP5-SEP2020	FD	1	Benzyl butyl phthalate	290 U	110	290	380	330	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-DUP5-SEP2020	FD	1	Biphenyl (Diphenyl)	290 U	85.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP5-SEP2020	FD	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	290 U	94.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP5-SEP2020	FD	1	bis(2-Ethylhexyl) phthalate	290 U	110	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP5-SEP2020	FD	1	Carbazole	290 U	130	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP5-SEP2020	FD	1	Dibenzofuran	290 U	92.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP5-SEP2020	FD	1	Diethyl phthalate	290 U	93.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP5-SEP2020	FD	1	Dimethyl phthalate	290 U	91.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP5-SEP2020	FD	1	Di-n-butyl phthalate	290 U	120	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP5-SEP2020	FD	1	Di-n-octyl phthalate	290 U	240	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP5-SEP2020	FD	1	Hexachlorobenzene	290 U	95.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP5-SEP2020	FD	1	Hexachlorobutadiene	290 U	96.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP5-SEP2020	FD	1	Hexachlorocyclopentadiene	290 U	95.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP5-SEP2020	FD	1	Hexachloroethane	290 U	110	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP5-SEP2020	FD	1	n-Nitrosodi-n-propylamine	290 U	96.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP5-SEP2020	FD	1	n-Nitrosodiphenylamine	290 U	250	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP5-SEP2020	FD	1	Pentachlorophenol	710 U	280	710	950	820	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP5-SEP2020	FD	1	Phenol	290 U	180	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-A-SEP2020	N	1	1,2,4,5-Tetrachlorobenzene	280 U	150	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-A-SEP2020	N	1	2,4-Dichlorophenol	280 U	170	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-A-SEP2020	N	1	2,4-Dimethylphenol	280 U	190	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-A-SEP2020	N	1	2,4-Dinitrophenol	700 U	430	700	940	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-A-SEP2020	N	1	2,6-Dinitrotoluene	280 U	90.0	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-A-SEP2020	N	1	2-Chlorophenol	280 U	190	280	380	330	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW4OB-A-SEP2020	N	1	2-Methylphenol (o-Cresol)	280 U	230	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-A-SEP2020	N	1	2-Nitroaniline	700 U	86.0	700	940	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-A-SEP2020	N	1	3,3'-Dichlorobenzidine	280 U	130	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-A-SEP2020	N	1	4,6-Dinitro-2-methylphenol	700 U	380	700	940	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-A-SEP2020	N	1	4-Chloroaniline	280 U	140	280	380	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-A-SEP2020	N	1	Atrazine	280 U	100	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-A-SEP2020	N	1	Benzyl butyl phthalate	280 U	110	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-A-SEP2020	N	1	Biphenyl (Diphenyl)	280 U	83.0	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-A-SEP2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	280 U	92.0	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-A-SEP2020	N	1	bis(2-Ethylhexyl) phthalate	280 U	110	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-A-SEP2020	N	1	Carbazole	280 U	130	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-A-SEP2020	N	1	Dibenzofuran	280 U	90.0	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-A-SEP2020	N	1	Diethyl phthalate	280 U	91.0	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-A-SEP2020	N	1	Dimethyl phthalate	280 U	89.0	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-A-SEP2020	N	1	Di-n-butyl phthalate	280 U	120	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-A-SEP2020	N	1	Di-n-octyl phthalate	280 U	240	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-A-SEP2020	N	1	Hexachlorobenzene	280 U	94.0	280	380	330	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW4OB-A-SEP2020	N	1	Hexachlorobutadiene	280 U	95.0	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-A-SEP2020	N	1	Hexachlorocyclopentadiene	280 U	94.0	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-A-SEP2020	N	1	Hexachloroethane	280 U	110	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-A-SEP2020	N	1	n-Nitrosodi-n-propylamine	280 U	95.0	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-A-SEP2020	N	1	n-Nitrosodiphenylamine	280 U	250	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-A-SEP2020	N	1	Pentachlorophenol	700 U	270	700	940	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-A-SEP2020	N	1	Phenol	280 U	180	280	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-B-SEP2020	N	1	1,2,4,5-Tetrachlorobenzene	300 U	160	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-B-SEP2020	N	1	2,4-Dichlorophenol	300 U	180	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-B-SEP2020	N	1	2,4-Dimethylphenol	300 U	200	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-B-SEP2020	N	1	2,4-Dinitrophenol	760 U	460	760	1000	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-B-SEP2020	N	1	2,6-Dinitrotoluene	300 U	97.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-B-SEP2020	N	1	2-Chlorophenol	300 U	200	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-B-SEP2020	N	1	2-Methylphenol (o-Cresol)	300 U	240	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-B-SEP2020	N	1	2-Nitroaniline	760 U	92.0	760	1000	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-B-SEP2020	N	1	3,3'-Dichlorobenzidine	300 U	140	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-B-SEP2020	N	1	4,6-Dinitro-2-methylphenol	760 U	410	760	1000	820	ug/kg

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Reporting Anomalies

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SW8270/SW3550/NONE	NHFLA-MW4OB-B-SEP2020	N	1	4-Chloroaniline	300 U	150	300	400	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-B-SEP2020	N	1	Atrazine	300 U	110	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-B-SEP2020	N	1	Benzyl butyl phthalate	300 U	110	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-B-SEP2020	N	1	Biphenyl (Diphenyl)	300 U	90.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-B-SEP2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	300 U	100	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-B-SEP2020	N	1	bis(2-Ethylhexyl) phthalate	300 U	120	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-B-SEP2020	N	1	Carbazole	300 U	140	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-B-SEP2020	N	1	Dibenzofuran	300 U	97.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-B-SEP2020	N	1	Diethyl phthalate	300 U	98.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-B-SEP2020	N	1	Dimethyl phthalate	300 U	96.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-B-SEP2020	N	1	Di-n-butyl phthalate	300 U	120	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-B-SEP2020	N	1	Di-n-octyl phthalate	300 U	260	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-B-SEP2020	N	1	Hexachlorobenzene	300 U	100	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-B-SEP2020	N	1	Hexachlorobutadiene	300 U	100	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-B-SEP2020	N	1	Hexachlorocyclopentadiene	300 U	100	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-B-SEP2020	N	1	Hexachloroethane	300 U	120	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-B-SEP2020	N	1	n-Nitrosodi-n-propylamine	300 U	100	300	400	330	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW4OB-B-SEP2020	N	1	n-Nitrosodiphenylamine	300 U	270	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-B-SEP2020	N	1	Pentachlorophenol	760 U	290	760	1000	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW4OB-B-SEP2020	N	1	Phenol	300 U	190	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW8-B-SEP2020	N	1	1,2,4,5-Tetrachlorobenzene	280 U	150	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW8-B-SEP2020	N	1	2,4-Dichlorophenol	280 U	170	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW8-B-SEP2020	N	1	2,4-Dimethylphenol	280 U	180	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW8-B-SEP2020	N	1	2,4-Dinitrophenol	690 U	420	690	920	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW8-B-SEP2020	N	1	2,6-Dinitrotoluene	280 U	88.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW8-B-SEP2020	N	1	2-Chlorophenol	280 U	180	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW8-B-SEP2020	N	1	2-Methylphenol (o-Cresol)	280 U	220	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW8-B-SEP2020	N	1	2-Nitroaniline	690 U	84.0	690	920	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW8-B-SEP2020	N	1	3,3'-Dichlorobenzidine	280 U	130	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW8-B-SEP2020	N	1	4,6-Dinitro-2-methylphenol	690 U	380	690	920	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW8-B-SEP2020	N	1	4-Chloroaniline	280 U	130	280	370	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-MW8-B-SEP2020	N	1	Atrazine	280 U	100	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW8-B-SEP2020	N	1	Benzyl butyl phthalate	280 U	100	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW8-B-SEP2020	N	1	Biphenyl (Diphenyl)	280 U	82.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW8-B-SEP2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	280 U	90.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW8-B-SEP2020	N	1	bis(2-Ethylhexyl) phthalate	280 U	110	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW8-B-SEP2020	N	1	Carbazole	280 U	120	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW8-B-SEP2020	N	1	Dibenzofuran	280 U	88.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW8-B-SEP2020	N	1	Diethyl phthalate	280 U	89.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW8-B-SEP2020	N	1	Dimethyl phthalate	280 U	87.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW8-B-SEP2020	N	1	Di-n-butyl phthalate	280 U	110	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW8-B-SEP2020	N	1	Di-n-octyl phthalate	280 U	240	280	370	330	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW8-B-SEP2020	N	1	Hexachlorobenzene	280 U	92.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW8-B-SEP2020	N	1	Hexachlorobutadiene	280 U	93.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW8-B-SEP2020	N	1	Hexachlorocyclopentadiene	280 U	92.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW8-B-SEP2020	N	1	Hexachloroethane	280 U	110	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW8-B-SEP2020	N	1	n-Nitrosodi-n-propylamine	280 U	93.0	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW8-B-SEP2020	N	1	n-Nitrosodiphenylamine	280 U	240	280	370	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW8-B-SEP2020	N	1	Pentachlorophenol	690 U	260	690	920	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW8-B-SEP2020	N	1	Phenol	280 U	170	280	370	330	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
C	LCS Recovery
D3	Field Duplicate RPD
H1	Test Hold Time
H2	Prep Hold Time
I	Surrogate recovery outside project limits.
L	Lab Blank
M	MS Recovery
TR	Trace Level Detect
V	Equipment Blank
Z	LCS RPD

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: BNASIM (GC/MS-SIM Analysis by SW8270)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			Removed H qualifiers for sample -001. Sample analyzed in 40 days same as project required maximum holding time.
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch WG285632-2 LCS recoveries biased low for indeno(123cd)pyrene. Client sample -006 qualified with UJ flag and C reason code for this analyte.
Was the LCS/LCSD RPD within project acceptance limits?			•	LCS only
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			Field duplicate associated issues corrected in database so no qualifications required.
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Internal standard and calibration outlier issues noted in case narrative were not addressed as part of this stage 2A validation review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data rejected during the verification process?		•		

Review Questions

Method: LYDKHN (Lloyd Kahn Method for the Determination of Total Organic Carbon in Sediment, USEPA Region II Method)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			Hold time flags were removed - sample analyzed in 7 days versus 14 days project requirement.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?			•	Sample -001 MS/MSD spike amounts were considered insignificant due to 4X rule so were not used to qualify data.
Was the MS/MSD RPD within project acceptance limits?	•			
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?		•		Samples -002 and -003 qualified as estimated with J flags and D3 qualifier codes due to field dup RPD on 63.8 vs upper warning criteria of 50.
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW6010 (Trace Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch PBSNI03ICS1 method blank detections below LOQ for barium, calcium, chromium, iron, magnesium, manganese, nickel, potassium, sodium, zinc. No qualifications required. Removed U/L flag/code for sample - 004 since result of 156J was greater than 5X blank detect of 7.1J.
Were target analytes in the field blank less than MDL?			•	Equipment blank detections were not used to qualify soil field sample detections
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			Field duplicate association issues corrected in database so no qualifications required.
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW6020 (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch PBWNI09IMW3 - detected below LOQ for aluminum, copper, lead, magnesium. Client sample -006 qualified with U flag and L reason code for aluminum, lead, magnesium.
Were target analytes in the field blank less than MDL?		•		Method 6020 sample was field blank which had multiple detections below LOQ that were not used to qualify soil sample results.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7196 (Chromium, Hexavalent (Colorimetric))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			H code removed for soil sample since they were analyzed in 8 days which is less than 28 day project criteria.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		Batch WG285553 detection below LOQ resulted in qualification of client sample -006 with U flag and L reason code - non-detect at LOQ.
Were target analytes in the field blank less than MDL?		•		Qualified as noted above.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	LCS only
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7470 (Mercury in Liquid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch NI09HGW2 detection below LOQ resulted in qualification of sample -006 with U flag for non-detect at LOD and L reason code.
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7471 (Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW8260 (Volatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			Removed H qualifiers for sample -001 since analyzed on 14th day of 14 day hold time requirement.
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Samples -002 and -004 qualified with UJ/J I flags and reason codes since both had at least one surrogate outlier biased low. Samples -001RA and -005 had 1 of 4 surrogate outliers biased high so detects were qualified J/I flag/reason codes and non-detects did not require qualification
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			Field duplicate association issues corrected in database so no flags required.
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Internal standard outlier issues noted in case narrative were not addressed as part of this stage 2A validation review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data rejected during the verification process?		•		

Review Questions

Method: SW8270 (Semivolatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?		•		Sample -003, -004, -005 H2 flags were required for 1,4-dioxane results only.
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Sample -006RA 1 of 3 acid surrogates were outliers biased low so acid only results were qualified (BN flags removed in database).
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG285545-1 detection for bis-2-ethylhexylphthalate resulted in qualification of U/L flag/reason codes for samples -002, -003, -004, -005. QC batch WG285631 detection for bis-2-ethylhexylphthalate resulted in qualification of U/L flag/reason codes for sample -006.
Were target analytes in the field blank less than MDL?		•		bis-2-ethylhexylphthalate detection was qualified as noted above.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch WG285545-2 recovery biased high for benzaldehyde and 3,3-dichlorobenzidine for just one LCS and biased low for both LCS/LCSD for caprolactam. Client samples -001, -002, -003, -004, -005 benzaldehyde results qualified UJ/E due to RPD outlier for benzaldehyde and caprolactam qualified UJ/C due to low bias recoveries.
Was the LCS/LCSD RPD within project acceptance limits?		•		QC batch WG285545-2 benzaldehyde outlier as noted above and also 2,2-oxybis(1-chloropropane) RPD outleir which did not require qualification.
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Internal standard, ICV, CCV and ICAL outlier issues noted in case narrative were not addressed as part of this stage 2A validation review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data rejected during the verification process?		•		

Review Questions

Method: SW9045 (Soil pH)

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?			•	
Were target analytes in the method blank less than MDL?			•	
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	SN7404
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Katahdin Analytical Services, Westbrook, ME
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	January 06, 2021 - Resubmitted February 11, 2021 - Review checklist narration updated for S2AVEM9, 26 - 8260, 8270, SIM.

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	BNASIM	LYDKHN	SW6010	SW6020	SW7196	SW7470	SW7471	SW8260	SW8270	SW9045
NHFLA-MW14-A-SEP2020	SN7404-1	Solid	Field Sample/N	X	X	X		X		X	X	X	X
NHFLA-MW14-B-SEP2020	SN7404-2	Solid	Field Sample/N	X	X	X		X		X	X	X	
NHFLA-EB11-SEP2020	SN7404-3	Water	Equipment Blank/EB	X			X	X	X		X	X	
NHFLA-TB13-SEP2020	SN7404-4	Water	Trip Blank/TB								X		

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Katahdin Analytical Services, Westbrook, ME and were reported under sample delivery group (SDG) SN7404. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Lab Blank
- Lab Replicate RPD
- LCS Recovery
- LCS RPD
- MS Recovery
- Prep Hold Time
- Surrogate
- Test Hold Time
- Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 95 results (19.79%) out of the 480 results (sample and field QC samples) reported are qualified based on review and 14 results (2.92%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Analytical Method	Data Reviewer Comment
BNASIM	No additional comments; see Checklist for detail.
LYDKHN	No additional comments; see Checklist for detail.
SW6010	No additional comments; see Checklist for detail.
SW6020	No additional comments; see Checklist for detail.
SW7196	No additional comments; see Checklist for detail.
SW7470	No additional comments; see Checklist for detail.
SW7471	No additional comments; see Checklist for detail.
SW8260	No additional comments; see Checklist for detail.
SW8270	No additional comments; see Checklist for detail.
SW9045	No additional comments; see Checklist for detail.

Jim Tomalia

February 11, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method BNASIM, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285634-1 (LB)/ WG285634-1	Benzo (g,h,i)perylene	4.000	< 2	< 20	ug/kg	U/None	L	
WG285634-1 (LB)/ WG285634-1	Dibenz (a,h)anthracene	4.100	< 1.8	< 20	ug/kg	U/None	L	
WG285634-1 (LB)/ WG285634-1	Indeno(1,2,3-c,d)pyrene	4.200	< 1.9	< 20	ug/kg	U/None	L	
WG285634-1 (LB)/ WG285634-1	Benzo (k)fluoranthene	4.500	< 3.1	< 20	ug/kg	U/None	L	
WG285634-1 (LB)/ WG285634-1	Benzo(a)pyrene	4.500	< 3.3	< 20	ug/kg	U/None	L	
WG285634-1 (LB)/ WG285634-1	Benzo (b)fluoranthene	7.200	< 2.4	< 20	ug/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method BNASIM, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285632-2 (BS)/ WG285632-2	Indeno(1,2,3-c,d)pyrene	46.00	48 - 130	10 - 130	percent	J/UJ	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB11-SEP2020	EB	Indeno(1,2,3-c,d)pyrene	0.190	0.0950 UL	0.0950 UJ		ug/l	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method LYDKHN, Prep Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of extraction found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW14-A-SEP2020 (N)/ SN7404-1		5.920	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW14-B-SEP2020 (N)/ SN7404-2		5.900	< 0	< 0	days	J/X	H2	Prep Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6010, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBSNI04ICS1 (LB)/ PBSNI04ICS1	Chromium	0.05300	< 0.026	< 1	mg/kg	U/None	L	
PBSNI04ICS1 (LB)/ PBSNI04ICS1	Aluminum	1.300	< 0.71	< 30	mg/kg	U/None	L	
PBSNI04ICS1 (LB)/ PBSNI04ICS1	Magnesium	1.500	< 0.68	< 10	mg/kg	U/None	L	
PBSNI04ICS1 (LB)/ PBSNI04ICS1	Potassium	17.00	< 2.9	< 100	mg/kg	U/None	L	
PBSNI04ICS1 (LB)/ PBSNI04ICS1	Sodium	2.800	< 1.5	< 100	mg/kg	U/None	L	
PBSNI04ICS1 (LB)/ PBSNI04ICS1	Calcium	3.500	< 1.8	< 10	mg/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB11-SEP2020 (EB)/ SN7404-3	Manganese	0.9300	< 0.7	< 4	ug/l	U/None	V	
NHFLA-EB11-SEP2020 (EB)/ SN7404-3	Copper	1.100	< 0.37	< 6	ug/l	U/None	V	
NHFLA-EB11-SEP2020 (EB)/ SN7404-3	Sodium	1280	< 37	< 2000	ug/l	U/None	V	
NHFLA-EB11-SEP2020 (EB)/ SN7404-3	Calcium	150.0	< 41	< 200	ug/l	U/None	V	
NHFLA-EB11-SEP2020 (EB)/ SN7404-3	Aluminum	17.00	< 8.8	< 200	ug/l	U/None	V	
NHFLA-EB11-SEP2020 (EB)/ SN7404-3	Potassium	200.0	< 61	< 2000	ug/l	U/None	V	
NHFLA-EB11-SEP2020 (EB)/ SN7404-3	Magnesium	74.00	< 16	< 200	ug/l	U/None	V	
NHFLA-EB11-SEP2020 (EB)/ SN7404-3	Lead	0.3800	< 0.15	< 2	ug/l	U/None	V	
NHFLA-EB11-SEP2020 (EB)/ SN7404-3	Barium	1.700	< 0.54	< 4	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNI04IMW2 (LB)/ PBWNI04IMW2	Nickel	0.1800	< 0.15	< 2	ug/l	U/None	L	
PBWNI04IMW2 (LB)/ PBWNI04IMW2	Chromium	0.9000	< 0.22	< 5	ug/l	U/None	L	
PBWNI04IMW2 (LB)/ PBWNI04IMW2	Manganese	1.400	< 0.35	< 2	ug/l	U/None	L	
PBWNI04IMW2 (LB)/ PBWNI04IMW2	Magnesium	30.00	< 7.8	< 100	ug/l	U/None	L	
PBWNI04IMW2 (LB)/ PBWNI04IMW2	Aluminum	34.00	< 4.4	< 100	ug/l	U/None	L	
PBWNI04IMW2 (LB)/ PBWNI04IMW2	Calcium	76.00	< 20	< 100	ug/l	U/None	L	
PBWNI04IMW2 (LB)/ PBWNI04IMW2	Thallium	0.07500	< 0.061	< 1	ug/l	U/None	L	
PBWNI04IMW2 (LB)/ PBWNI04IMW2	Barium	1.500	< 0.27	< 2	ug/l	U/None	L	
PBWNI04IMW2 (LB)/ PBWNI04IMW2	Copper	0.6600	< 0.18	< 3	ug/l	U/None	L	
PBWNI04IMW2 (LB)/ PBWNI04IMW2	Lead	0.1600	< 0.074	< 1	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB11-SEP2020	EB	Aluminum	200	17.0 J	80.0 U		ug/l	L
NHFLA-EB11-SEP2020	EB	Barium	4.00	1.70 JB	2.00 U		ug/l	L
NHFLA-EB11-SEP2020	EB	Calcium	200	150 J	160 U		ug/l	L
NHFLA-EB11-SEP2020	EB	Copper	6.00	1.10 J	4.00 U		ug/l	L
NHFLA-EB11-SEP2020	EB	Lead	2.00	0.380 J	1.00 U		ug/l	L
NHFLA-EB11-SEP2020	EB	Magnesium	200	74.0 J	160 U		ug/l	L
NHFLA-EB11-SEP2020	EB	Manganese	4.00	0.930 JB	2.00 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285589-1 (LB)/ WG285589-1	Chromium, Hexavalent	0.01200	< 0.00076	< 0.025	mg/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7196, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW14-A-SEP2020 (N)/ SN7404-1		7.020	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-MW14-B-SEP2020 (N)/ SN7404-2		7.000	< 1	< 2	days	J/X	H1	Test Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7470, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB11-SEP2020 (EB)/ SN7404-3	Mercury	0.04400	< 0.013	< 0.2	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7470, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNI09HGW2 (LB)/ PBWNI09HGW2	Mercury	0.08000	< 0.013	< 0.2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW7470

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB11-SEP2020	EB	Mercury	0.200	0.0440 J	0.100 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB11-SEP2020 (EB)/ SN7404-3	1,2-Dichloroethane	0.2100	< 0.2	< 1	ug/l	U/None	V	
NHFLA-EB11-SEP2020 (EB)/ SN7404-3	Toluene	0.3300	< 0.27	< 1	ug/l	U/None	V	
NHFLA-EB11-SEP2020 (EB)/ SN7404-3	Methylene chloride	1.400	< 1.1	< 5	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW14-A-SEP2020 (N)/ SN7404-1	Dibromofluoromethane	129.0	78 - 119	10 - 119	percent	J/None	I	
NHFLA-MW14-A-SEP2020 (N)/ SN7404-1	1,2-Dichloroethane-d4	142.0	71 - 136	10 - 136	percent	J/None	I	
NHFLA-MW14-A-SEP2020 (N)/ SN7404-1	1-Bromo-4-fluorobenzene (4-Bromofluorobenzene)	65.60	79 - 119	10 - 119	percent	J/UJ	I	
NHFLA-MW14-B-SEP2020 (N)/ SN7404-2	Dibromofluoromethane	120.0	78 - 119	10 - 119	percent	J/None	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW14-A-SEP2020	N	1,1,1-Trichloroethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	1,1,2,2-Tetrachloroethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	1,1,2-Trichloroethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	1,1-Dichloroethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	1,1-Dichloroethene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	1,2,3-Trichlorobenzene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	1,2,4-Trichlorobenzene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	1,2-Dibromo-3-chloropropane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	1,2-Dibromoethane (EDB)	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	1,2-Dichlorobenzene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	1,2-Dichloroethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	1,2-Dichloropropane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	1,3-Dichlorobenzene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	1,4-Dichlorobenzene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	2-Butanone (MEK)	23.0	12.0 U	12.0 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	2-Hexanone	23.0	12.0 U	12.0 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	4-Methyl-2-pentanone (MIBK)	23.0	12.0 U	12.0 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Acetone	23.0	12.0 U	12.0 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Benzene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Bromochloromethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Bromodichloromethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Bromoform	4.60	2.30 U	2.30 UJ		ug/kg	I

Qualified Results associated with the Surrogate for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW14-A-SEP2020	N	Bromomethane	9.20	4.60 U	4.60 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Carbon disulfide	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Carbon tetrachloride	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Chlorobenzene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Chloroethane	9.20	4.60 U	4.60 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Chloroform	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Chloromethane	9.20	4.60 U	4.60 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	cis-1,2-Dichloroethene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	cis-1,3-Dichloropropene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Cyclohexane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Dibromochloromethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Dichlorodifluoromethane	9.20	4.60 U	4.60 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Ethylbenzene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Isopropylbenzene (Cumene)	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	m,p-Xylene	9.20	4.60 U	4.60 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Methyl acetate	4.60	2.80 U	2.80 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Methyl tert-butyl ether (MTBE)	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Methylcyclohexane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Methylene chloride	23.0	12.0 U	12.0 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	o-Xylene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Styrene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Tetrachloroethene (PCE)	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Toluene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	trans-1,2-Dichloroethene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	trans-1,3-Dichloropropene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Trichloroethene (TCE)	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Trichlorofluoromethane	9.20	4.60 U	4.60 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Vinyl chloride	9.20	4.60 U	4.60 UJ		ug/kg	I
NHFLA-MW14-B-SEP2020	N	Methylene chloride	22.0	7.10 J	7.10 J	+	ug/kg	I/TR
NHFLA-MW14-B-SEP2020	N	Toluene	4.50	3.40 J	3.40 J	+	ug/kg	I/TR

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Trip Blank

The purpose of trip blanks is to determine the existence and magnitude of cross-contamination problems resulting from the shipping of samples. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in trip blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-TB13-SEP2020 (TB)/ SN7404-4	Methylene chloride	1.600	< 1.1	< 5	ug/l	U/None	T	
NHFLA-TB13-SEP2020 (TB)/ SN7404-4	Acetone	3.800	< 2.2	< 5	ug/l	U/None	T	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB11-SEP2020 (EB)/ SN7404-3	Bis(2-ethylhexyl) phthalate	17.00	< 1.6	< 9.5	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285631-1 (LB)/ WG285631-1	Bis(2-ethylhexyl) phthalate	4.800	< 1.7	< 10	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB11-SEP2020	EB	Bis(2-ethylhexyl) phthalate	17.0	17.0 B	17.0 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285635-1RA (LB)/ WG285635-1RA	Bis(2-ethylhexyl) phthalate	4100	< 98	< 330	ug/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW14-A-SEP2020	N	Bis(2-ethylhexyl) phthalate	3600	3600 BL	3600 U		ug/kg	L
NHFLA-MW14-B-SEP2020	N	Bis(2-ethylhexyl) phthalate	6200	6200 BL	6200 U		ug/kg	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285631-2 (BS)/ WG285631-2	Benzaldehyde	316.0	10 - 189	10 - 189	percent	J/None	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285635-2RA (BS)/ WG285635-2RA	Benzaldehyde	321.0	10 - 134	10 - 134	percent	J/None	C	
WG285635-2RA (BS)/ WG285635-2RA	Bis(2-ethylhexyl) phthalate	350.9	51 - 133	10 - 133	percent	J/None	C	
WG285635-2RA (BS)/ WG285635-2RA	Caprolactam	36.83	46 - 117	10 - 117	percent	J/UJ	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW14-A-SEP2020	N	Caprolactam	360	270 UL	270 UJ		ug/kg	C
NHFLA-MW14-B-SEP2020	N	Caprolactam	380	290 UL	290 UJ		ug/kg	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB11-SEP2020 (EB)/ SN7404-3	2-Fluorophenol	11.40	19 - 119	10 - 119	percent	J/UJ	I	
NHFLA-EB11-SEP2020 (EB)/ SN7404-3	2,4,6-Tribromophenol	28.80	43 - 140	10 - 140	percent	J/UJ	I	
NHFLA-EB11-SEP2020 (EB)/ SN7404-3	Phenol-d6	8.360	10 - 90	10 - 90	percent	J/X	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB11-SEP2020	EB	2,4,5-Trichlorophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB11-SEP2020	EB	2,4,6-Trichlorophenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB11-SEP2020	EB	2,4-Dichlorophenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB11-SEP2020	EB	2,4-Dimethylphenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB11-SEP2020	EB	2,4-Dinitrophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB11-SEP2020	EB	2-Chlorophenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB11-SEP2020	EB	2-Methylphenol (o-Cresol)	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB11-SEP2020	EB	2-Nitrophenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB11-SEP2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB11-SEP2020	EB	4-Chloro-3-methylphenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB11-SEP2020	EB	4-Nitrophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB11-SEP2020	EB	Cresols, m- & p-	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB11-SEP2020	EB	Pentachlorophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB11-SEP2020	EB	Phenol	9.50	7.10 U	7.10 X		ug/l	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW14-B-SEP2020 (N)/ SN7404-2	2,4,6-Tribromophenol	38.90	39 - 132	10 - 132	percent	J/UJ	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW14-B-SEP2020	N	2,4,5-Trichlorophenol	940	710 U	710 UJ		ug/kg	I
NHFLA-MW14-B-SEP2020	N	2,4,6-Trichlorophenol	380	290 U	290 UJ		ug/kg	I
NHFLA-MW14-B-SEP2020	N	2,4-Dichlorophenol	380	290 U	290 UJ		ug/kg	I
NHFLA-MW14-B-SEP2020	N	2,4-Dimethylphenol	380	290 U	290 UJ		ug/kg	I
NHFLA-MW14-B-SEP2020	N	2,4-Dinitrophenol	940	710 U	710 UJ		ug/kg	I
NHFLA-MW14-B-SEP2020	N	2-Chlorophenol	380	290 U	290 UJ		ug/kg	I
NHFLA-MW14-B-SEP2020	N	2-Methylphenol (o-Cresol)	380	290 U	290 UJ		ug/kg	I
NHFLA-MW14-B-SEP2020	N	2-Nitrophenol	380	290 U	290 UJ		ug/kg	I
NHFLA-MW14-B-SEP2020	N	4,6-Dinitro-2-methylphenol	940	710 U	710 UJ		ug/kg	I
NHFLA-MW14-B-SEP2020	N	4-Chloro-3-methylphenol	380	290 U	290 UJ		ug/kg	I
NHFLA-MW14-B-SEP2020	N	4-Nitrophenol	940	710 U	710 UJ		ug/kg	I
NHFLA-MW14-B-SEP2020	N	Cresols, m- & p-	380	290 U	290 UJ		ug/kg	I
NHFLA-MW14-B-SEP2020	N	Pentachlorophenol	940	710 U	710 UJ		ug/kg	I
NHFLA-MW14-B-SEP2020	N	Phenol	380	290 U	290 UJ		ug/kg	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Table of All Qualified Results

Test Method: BNASIM	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB11-SEP2020	EB	Indeno(1,2,3-c,d)pyrene	0.190	0.0950 UL	0.0950 UJ		ug/l	C

Test Method: SW6020	Extraction Method: SW3010							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB11-SEP2020	EB	Aluminum	200	17.0 J	80.0 U		ug/l	L
NHFLA-EB11-SEP2020	EB	Barium	4.00	1.70 JB	2.00 U		ug/l	L
NHFLA-EB11-SEP2020	EB	Calcium	200	150 J	160 U		ug/l	L
NHFLA-EB11-SEP2020	EB	Copper	6.00	1.10 J	4.00 U		ug/l	L
NHFLA-EB11-SEP2020	EB	Lead	2.00	0.380 J	1.00 U		ug/l	L
NHFLA-EB11-SEP2020	EB	Magnesium	200	74.0 J	160 U		ug/l	L
NHFLA-EB11-SEP2020	EB	Manganese	4.00	0.930 JB	2.00 U		ug/l	L

Test Method: SW7470	Extraction Method: METHOD							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB11-SEP2020	EB	Mercury	0.200	0.0440 J	0.100 U		ug/l	L

Test Method: SW8260	Extraction Method: SW5035							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW14-A-SEP2020	N	1,1,1-Trichloroethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	1,1,2,2-Tetrachloroethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	1,1,2-Trichloroethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	1,1-Dichloroethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	1,1-Dichloroethene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	1,2,3-Trichlorobenzene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	1,2,4-Trichlorobenzene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	1,2-Dibromo-3-chloropropane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	1,2-Dibromoethane (EDB)	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	1,2-Dichlorobenzene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	1,2-Dichloroethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	1,2-Dichloropropane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	1,3-Dichlorobenzene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	1,4-Dichlorobenzene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	2-Butanone (MEK)	23.0	12.0 U	12.0 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	2-Hexanone	23.0	12.0 U	12.0 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	4-Methyl-2-pentanone (MIBK)	23.0	12.0 U	12.0 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Acetone	23.0	12.0 U	12.0 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Benzene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Bromochloromethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Bromodichloromethane	4.60	2.30 U	2.30 UJ		ug/kg	I

Table of All Qualified Results

Test Method: SW8260 Extraction Method: SW5035

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW14-A-SEP2020	N	Bromoform	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Bromomethane	9.20	4.60 U	4.60 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Carbon disulfide	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Carbon tetrachloride	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Chlorobenzene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Chloroethane	9.20	4.60 U	4.60 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Chloroform	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Chloromethane	9.20	4.60 U	4.60 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	cis-1,2-Dichloroethene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	cis-1,3-Dichloropropene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Cyclohexane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Dibromochloromethane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Dichlorodifluoromethane	9.20	4.60 U	4.60 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Ethylbenzene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Isopropylbenzene (Cumene)	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	m,p-Xylene	9.20	4.60 U	4.60 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Methyl acetate	4.60	2.80 U	2.80 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Methyl tert-butyl ether (MTBE)	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Methylcyclohexane	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Methylene chloride	23.0	12.0 U	12.0 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	o-Xylene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Styrene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Tetrachloroethene (PCE)	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Toluene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	trans-1,2-Dichloroethene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	trans-1,3-Dichloropropene	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Trichloroethene (TCE)	4.60	2.30 U	2.30 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Trichlorofluoromethane	9.20	4.60 U	4.60 UJ		ug/kg	I
NHFLA-MW14-A-SEP2020	N	Vinyl chloride	9.20	4.60 U	4.60 UJ		ug/kg	I
NHFLA-MW14-B-SEP2020	N	Methylene chloride	22.0	7.10 J	7.10 J	+	ug/kg	I/TR
NHFLA-MW14-B-SEP2020	N	Toluene	4.50	3.40 J	3.40 J	+	ug/kg	I/TR

Test Method: SW8270 Extraction Method: SW3510

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB11-SEP2020	EB	2,4,5-Trichlorophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB11-SEP2020	EB	2,4,6-Trichlorophenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB11-SEP2020	EB	2,4-Dichlorophenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB11-SEP2020	EB	2,4-Dimethylphenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB11-SEP2020	EB	2,4-Dinitrophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB11-SEP2020	EB	2-Chlorophenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB11-SEP2020	EB	2-Methylphenol (o-Cresol)	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB11-SEP2020	EB	2-Nitrophenol	9.50	7.10 U	7.10 X		ug/l	I

Table of All Qualified Results

Test Method: SW8270	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB11-SEP2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB11-SEP2020	EB	4-Chloro-3-methylphenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB11-SEP2020	EB	4-Nitrophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB11-SEP2020	EB	Cresols, m- & p-	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB11-SEP2020	EB	Pentachlorophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB11-SEP2020	EB	Phenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB11-SEP2020	EB	Bis(2-ethylhexyl) phthalate	17.0	17.0 B	17.0 U		ug/l	L

Test Method: SW8270	Extraction Method: SW3550							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW14-A-SEP2020	N	Bis(2-ethylhexyl) phthalate	3600	3600 BL	3600 U		ug/kg	L
NHFLA-MW14-A-SEP2020	N	Caprolactam	360	270 UL	270 UJ		ug/kg	C
NHFLA-MW14-B-SEP2020	N	2,4,5-Trichlorophenol	940	710 U	710 UJ		ug/kg	I
NHFLA-MW14-B-SEP2020	N	2,4,6-Trichlorophenol	380	290 U	290 UJ		ug/kg	I
NHFLA-MW14-B-SEP2020	N	2,4-Dichlorophenol	380	290 U	290 UJ		ug/kg	I
NHFLA-MW14-B-SEP2020	N	2,4-Dimethylphenol	380	290 U	290 UJ		ug/kg	I
NHFLA-MW14-B-SEP2020	N	2,4-Dinitrophenol	940	710 U	710 UJ		ug/kg	I
NHFLA-MW14-B-SEP2020	N	2-Chlorophenol	380	290 U	290 UJ		ug/kg	I
NHFLA-MW14-B-SEP2020	N	2-Methylphenol (o-Cresol)	380	290 U	290 UJ		ug/kg	I
NHFLA-MW14-B-SEP2020	N	2-Nitrophenol	380	290 U	290 UJ		ug/kg	I
NHFLA-MW14-B-SEP2020	N	4,6-Dinitro-2-methylphenol	940	710 U	710 UJ		ug/kg	I
NHFLA-MW14-B-SEP2020	N	4-Chloro-3-methylphenol	380	290 U	290 UJ		ug/kg	I
NHFLA-MW14-B-SEP2020	N	4-Nitrophenol	940	710 U	710 UJ		ug/kg	I
NHFLA-MW14-B-SEP2020	N	Cresols, m- & p-	380	290 U	290 UJ		ug/kg	I
NHFLA-MW14-B-SEP2020	N	Pentachlorophenol	940	710 U	710 UJ		ug/kg	I
NHFLA-MW14-B-SEP2020	N	Phenol	380	290 U	290 UJ		ug/kg	I
NHFLA-MW14-B-SEP2020	N	Bis(2-ethylhexyl) phthalate	6200	6200 BL	6200 U		ug/kg	L
NHFLA-MW14-B-SEP2020	N	Caprolactam	380	290 UL	290 UJ		ug/kg	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method LYDKHN

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW14-A-SEP2020	N	Total Organic Carbon	610	32000	32000 J	32000	
NHFLA-MW14-B-SEP2020	N	Total Organic Carbon	670	21000	21000 J	21000	

Modified Qualifiers for test method SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW14-A-SEP2020	N	Chromium, Hexavalent	1.10	0.670 U	0.670 X	0.670 U	
NHFLA-MW14-B-SEP2020	N	Chromium, Hexavalent	0.580	0.340 U	0.340 X	0.340 U	

Modified Qualifiers for test method SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB11-SEP2020	EB	1,2,4,5-Tetrachlorobenzene	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-EB11-SEP2020	EB	1,4-Dioxane (p-Dioxane)	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-EB11-SEP2020	EB	2,2'-Oxybis(1-chloropropane)	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-EB11-SEP2020	EB	2,4-Dinitrotoluene	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-EB11-SEP2020	EB	2,6-Dinitrotoluene	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-EB11-SEP2020	EB	2-Chloronaphthalene	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-EB11-SEP2020	EB	2-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	
NHFLA-EB11-SEP2020	EB	3,3'-Dichlorobenzidine	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-EB11-SEP2020	EB	3-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	
NHFLA-EB11-SEP2020	EB	4-Bromophenyl phenyl ether	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-EB11-SEP2020	EB	4-Chloroaniline	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-EB11-SEP2020	EB	4-Chlorophenyl phenyl ether	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-EB11-SEP2020	EB	4-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	
NHFLA-EB11-SEP2020	EB	Acetophenone	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-EB11-SEP2020	EB	Atrazine	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-EB11-SEP2020	EB	Benzaldehyde	9.50	7.10 UL	7.10 X	7.10 U	
NHFLA-EB11-SEP2020	EB	Benzyl butyl phthalate	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-EB11-SEP2020	EB	Biphenyl (Diphenyl)	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-EB11-SEP2020	EB	Bis(2-chloroethoxy) methane	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-EB11-SEP2020	EB	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-EB11-SEP2020	EB	Bis(2-ethylhexyl) phthalate	17.0	17.0 B	17.0 J	17.0 U	L
NHFLA-EB11-SEP2020	EB	Caprolactam	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-EB11-SEP2020	EB	Carbazole	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-EB11-SEP2020	EB	Dibenzofuran	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-EB11-SEP2020	EB	Diethyl phthalate	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-EB11-SEP2020	EB	Dimethyl phthalate	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-EB11-SEP2020	EB	Di-n-butyl phthalate	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-EB11-SEP2020	EB	di-n-Octyl phthalate	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-EB11-SEP2020	EB	Hexachlorobenzene	9.50	7.10 U	7.10 X	7.10 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB11-SEP2020	EB	Hexachlorobutadiene	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-EB11-SEP2020	EB	Hexachlorocyclopentadiene	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-EB11-SEP2020	EB	Hexachloroethane	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-EB11-SEP2020	EB	Isophorone	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-EB11-SEP2020	EB	Nitrobenzene	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-EB11-SEP2020	EB	N-Nitrosodi-n-propylamine	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-EB11-SEP2020	EB	N-Nitrosodiphenylamine	9.50	7.10 U	7.10 X	7.10 U	

Modified Qualifiers for test method SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW14-A-SEP2020	N	Bis(2-ethylhexyl) phthalate	3600	3600 BL	3600 J	3600 U	L
NHFLA-MW14-B-SEP2020	N	1,2,4,5-Tetrachlorobenzene	380	290 U	290 UJ	290 U	
NHFLA-MW14-B-SEP2020	N	1,4-Dioxane (p-Dioxane)	380	290 U	290 UJ	290 U	
NHFLA-MW14-B-SEP2020	N	2,2'-Oxybis(1-chloropropane)	380	290 U	290 UJ	290 U	
NHFLA-MW14-B-SEP2020	N	2,4-Dinitrotoluene	380	290 U	290 UJ	290 U	
NHFLA-MW14-B-SEP2020	N	2,6-Dinitrotoluene	380	290 U	290 UJ	290 U	
NHFLA-MW14-B-SEP2020	N	2-Chloronaphthalene	380	290 U	290 UJ	290 U	
NHFLA-MW14-B-SEP2020	N	2-Nitroaniline	940	710 U	710 UJ	710 U	
NHFLA-MW14-B-SEP2020	N	3,3'-Dichlorobenzidine	380	290 U	290 UJ	290 U	
NHFLA-MW14-B-SEP2020	N	3-Nitroaniline	940	710 U	710 UJ	710 U	
NHFLA-MW14-B-SEP2020	N	4-Bromophenyl phenyl ether	380	290 U	290 UJ	290 U	
NHFLA-MW14-B-SEP2020	N	4-Chloroaniline	380	290 U	290 UJ	290 U	
NHFLA-MW14-B-SEP2020	N	4-Chlorophenyl phenyl ether	380	290 U	290 UJ	290 U	
NHFLA-MW14-B-SEP2020	N	4-Nitroaniline	940	710 U	710 UJ	710 U	
NHFLA-MW14-B-SEP2020	N	Acetophenone	380	290 U	290 UJ	290 U	
NHFLA-MW14-B-SEP2020	N	Atrazine	380	290 U	290 UJ	290 U	
NHFLA-MW14-B-SEP2020	N	Benzaldehyde	380	290 UL	290 UJ	290 U	
NHFLA-MW14-B-SEP2020	N	Benzyl butyl phthalate	380	290 U	290 UJ	290 U	
NHFLA-MW14-B-SEP2020	N	Biphenyl (Diphenyl)	380	290 U	290 UJ	290 U	
NHFLA-MW14-B-SEP2020	N	Bis(2-chloroethoxy) methane	380	290 U	290 UJ	290 U	
NHFLA-MW14-B-SEP2020	N	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	380	290 U	290 UJ	290 U	
NHFLA-MW14-B-SEP2020	N	Bis(2-ethylhexyl) phthalate	6200	6200 BL	6200 J	6200 U	L
NHFLA-MW14-B-SEP2020	N	Caprolactam	380	290 UL	290 UJ	290 UJ	C
NHFLA-MW14-B-SEP2020	N	Carbazole	380	290 U	290 UJ	290 U	
NHFLA-MW14-B-SEP2020	N	Dibenzofuran	380	290 U	290 UJ	290 U	
NHFLA-MW14-B-SEP2020	N	Diethyl phthalate	380	290 U	290 UJ	290 U	
NHFLA-MW14-B-SEP2020	N	Dimethyl phthalate	380	290 U	290 UJ	290 U	
NHFLA-MW14-B-SEP2020	N	Di-n-butyl phthalate	380	290 U	290 UJ	290 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW14-B-SEP2020	N	di-n-Octyl phthalate	380	290 U	290 UJ	290 U	
NHFLA-MW14-B-SEP2020	N	Hexachlorobenzene	380	290 U	290 UJ	290 U	
NHFLA-MW14-B-SEP2020	N	Hexachlorobutadiene	380	290 U	290 UJ	290 U	
NHFLA-MW14-B-SEP2020	N	Hexachlorocyclopentadiene	380	290 U	290 UJ	290 U	
NHFLA-MW14-B-SEP2020	N	Hexachloroethane	380	290 U	290 UJ	290 U	
NHFLA-MW14-B-SEP2020	N	Isophorone	380	290 U	290 UJ	290 U	
NHFLA-MW14-B-SEP2020	N	Nitrobenzene	380	290 U	290 UJ	290 U	
NHFLA-MW14-B-SEP2020	N	N-Nitrosodi-n-propylamine	380	290 U	290 UJ	290 U	
NHFLA-MW14-B-SEP2020	N	N-Nitrosodiphenylamine	380	290 U	290 UJ	290 U	

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Rejected Results

Test Method: SW8270	Extraction Method: SW3510	Leach Method: NONE							
FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-EB11-SEP2020	SN7404-3	W	EB	2,4,5-Trichlorophenol	24.0	18.0 U	18.0 X	ug/l	I
NHFLA-EB11-SEP2020	SN7404-3	W	EB	2,4,6-Trichlorophenol	9.50	7.10 U	7.10 X	ug/l	I
NHFLA-EB11-SEP2020	SN7404-3	W	EB	2,4-Dichlorophenol	9.50	7.10 U	7.10 X	ug/l	I
NHFLA-EB11-SEP2020	SN7404-3	W	EB	2,4-Dimethylphenol	9.50	7.10 U	7.10 X	ug/l	I
NHFLA-EB11-SEP2020	SN7404-3	W	EB	2,4-Dinitrophenol	24.0	18.0 U	18.0 X	ug/l	I
NHFLA-EB11-SEP2020	SN7404-3	W	EB	2-Chlorophenol	9.50	7.10 U	7.10 X	ug/l	I
NHFLA-EB11-SEP2020	SN7404-3	W	EB	2-Methylphenol (o-Cresol)	9.50	7.10 U	7.10 X	ug/l	I
NHFLA-EB11-SEP2020	SN7404-3	W	EB	2-Nitrophenol	9.50	7.10 U	7.10 X	ug/l	I
NHFLA-EB11-SEP2020	SN7404-3	W	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 U	18.0 X	ug/l	I
NHFLA-EB11-SEP2020	SN7404-3	W	EB	4-Chloro-3-methylphenol	9.50	7.10 U	7.10 X	ug/l	I
NHFLA-EB11-SEP2020	SN7404-3	W	EB	4-Nitrophenol	24.0	18.0 U	18.0 X	ug/l	I
NHFLA-EB11-SEP2020	SN7404-3	W	EB	Cresols, m- & p-	9.50	7.10 U	7.10 X	ug/l	I
NHFLA-EB11-SEP2020	SN7404-3	W	EB	Pentachlorophenol	24.0	18.0 U	18.0 X	ug/l	I
NHFLA-EB11-SEP2020	SN7404-3	W	EB	Phenol	9.50	7.10 U	7.10 X	ug/l	I

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C02NY0079-02, Nike BU 51/52, Launch Area
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Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
BNASIM/SW3550/NONE	1	10
SW6010/SW3050/NONE	2	12
SW6020/SW3010/NONE	1	8
SW7196/SW3060/NONE	2	2
SW7471/METHOD/NONE	2	2
SW8270/SW3510/NONE	1	1
SW8270/SW3550/NONE	2	60

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
BNASIM/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	50	Benzo(a)anthracene	8500	100	540	1100	366.666666	ug/kg
BNASIM/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	50	Benzo(a)pyrene	9600	180	540	1100	36.666666	ug/kg
BNASIM/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	50	Benzo(b)fluoranthene	13000	130	540	1100	366.666666	ug/kg
BNASIM/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	50	Benzo(g,h,i)perylene	5800	110	540	1100	366.666666	ug/kg
BNASIM/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	50	Benzo(k)fluoranthene	5800	170	540	1100	366.666666	ug/kg
BNASIM/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	50	Chrysene	11000	93.0	540	1100	366.666666	ug/kg
BNASIM/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	50	Dibenz(a,h)anthracene	1400	98.0	540	1100	36.666666	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
BNASIM/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	50	Fluoranthene	22000	98.0	540	1100	366.666666	ug/kg
BNASIM/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	50	Indeno(1,2,3-c,d)pyrene	6000	100	540	1100	366.666666	ug/kg
BNASIM/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	50	Pyrene	18000	110	540	1100	366.666666	ug/kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-MW14-A-SEP2020	N	1	Antimony	0.400 J	0.0760	0.540	0.870	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW14-A-SEP2020	N	1	Arsenic	8.33	0.0740	0.540	0.870	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW14-A-SEP2020	N	1	Cadmium	0.535 J	0.00860	0.320	0.540	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW14-A-SEP2020	N	1	Cobalt	6.41	0.0310	0.430	1.10	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW14-A-SEP2020	N	1	Selenium	0.850 J	0.180	0.760	1.10	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW14-A-SEP2020	N	1	Thallium	1.03 J	0.0930	0.540	1.60	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW14-B-SEP2020	N	1	Antimony	0.500 J	0.0730	0.520	0.830	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW14-B-SEP2020	N	1	Arsenic	9.99	0.0710	0.520	0.830	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW14-B-SEP2020	N	1	Cadmium	0.518 J	0.00820	0.310	0.520	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW14-B-SEP2020	N	1	Cobalt	6.51	0.0300	0.420	1.00	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW14-B-SEP2020	N	1	Selenium	1.40	0.180	0.730	1.00	0.173333	mg/Kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

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Nike BU 51/52 Quality Assurance Project Plan

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-MW14-B-SEP2020	N	1	Thallium	1.48 J	0.0900	0.520	1.60	0.016666	mg/Kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6020/SW3010/NONE	NHFLA-EB11-SEP2020	EB	10	Antimony	1.00 U	0.110	1.00	2.00	1	ug/L
SW6020/SW3010/NONE	NHFLA-EB11-SEP2020	EB	10	Arsenic	8.00 U	4.50	8.00	10.0	5	ug/L
SW6020/SW3010/NONE	NHFLA-EB11-SEP2020	EB	10	Beryllium	0.400 U	0.0670	0.400	2.00	1	ug/L
SW6020/SW3010/NONE	NHFLA-EB11-SEP2020	EB	10	Cadmium	0.400 U	0.0590	0.400	2.00	1	ug/L
SW6020/SW3010/NONE	NHFLA-EB11-SEP2020	EB	10	Cobalt	0.600 U	0.120	0.600	2.00	1	ug/L
SW6020/SW3010/NONE	NHFLA-EB11-SEP2020	EB	10	Selenium	6.00 U	0.370	6.00	10.0	5	ug/L
SW6020/SW3010/NONE	NHFLA-EB11-SEP2020	EB	10	Thallium	0.800 U	0.120	0.800	2.00	1	ug/L
SW6020/SW3010/NONE	NHFLA-EB11-SEP2020	EB	10	Vanadium	8.00 U	1.00	8.00	10.0	5	ug/L

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7196/SW3060/NONE	NHFLA-MW14-A-SEP2020	N	2.5	Chromium, Hexavalent	0.670 U	0.330	0.670	1.10	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-MW14-B-SEP2020	N	1.2	Chromium, Hexavalent	0.340 U	0.170	0.340	0.580	0.4	mg/kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7471/METHOD/NONE	NHFLA-MW14-A-SEP2020	N	1	Mercury	0.0460	0.00570	0.0190	0.0370	0.033	mg/Kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7471/METHOD/NONE	NHFLA-MW14-B-SEP2020	N	1	Mercury	0.0510	0.00550	0.0180	0.0360	0.033	mg/Kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3510/NONE	NHFLA-EB11-SEP2020	EB	1	bis(2-Ethylhexyl) phthalate	7.10 U	1.60	7.10	9.50	10	ug/L

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	1	1,2,4,5-Tetrachlorobenzene	270 U	150	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	1	2,4-Dichlorophenol	270 U	160	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	1	2,4-Dimethylphenol	270 U	180	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	1	2,4-Dinitrophenol	670 U	410	670	890	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	1	2,6-Dinitrotoluene	270 U	86.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	1	2-Chlorophenol	270 U	180	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	1	2-Methylphenol (o-Cresol)	270 U	220	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	1	2-Nitroaniline	670 U	82.0	670	890	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	1	3,3'-Dichlorobenzidine	270 U	120	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	1	4,6-Dinitro-2-methylphenol	670 U	370	670	890	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	1	4-Chloroaniline	270 U	130	270	360	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	1	Atrazine	270 U	99.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	1	Benzyl butyl phthalate	270 U	100	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	1	Biphenyl (Diphenyl)	270 U	80.0	270	360	330	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	270 U	88.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	1	bis(2-Ethylhexyl) phthalate	270 U	110	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	1	Carbazole	1400	120	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	1	Dibenzofuran	170 J	86.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	1	Diethyl phthalate	270 U	87.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	1	Dimethyl phthalate	270 U	85.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	1	Di-n-butyl phthalate	270 U	110	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	1	Di-n-octyl phthalate	270 U	230	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	1	Hexachlorobenzene	270 U	89.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	1	Hexachlorobutadiene	270 U	90.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	1	Hexachlorocyclopentadiene	270 U	89.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	1	Hexachloroethane	270 U	100	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	1	n-Nitrosodi-n-propylamine	270 U	90.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	1	n-Nitrosodiphenylamine	270 U	240	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	1	Pentachlorophenol	670 U	260	670	890	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-A-SEP2020	N	1	Phenol	270 U	170	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-B-SEP2020	N	1	1,2,4,5-Tetrachlorobenzene	290 U	160	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-B-SEP2020	N	1	2,4-Dichlorophenol	290 UJ	170	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-B-SEP2020	N	1	2,4-Dimethylphenol	290 UJ	190	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-B-SEP2020	N	1	2,4-Dinitrophenol	710 UJ	430	710	940	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-B-SEP2020	N	1	2,6-Dinitrotoluene	290 U	91.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-B-SEP2020	N	1	2-Chlorophenol	290 UJ	190	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-B-SEP2020	N	1	2-Methylphenol (o-Cresol)	290 UJ	230	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-B-SEP2020	N	1	2-Nitroaniline	710 U	86.0	710	940	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-B-SEP2020	N	1	3,3'-Dichlorobenzidine	290 U	130	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-B-SEP2020	N	1	4,6-Dinitro-2-methylphenol	710 UJ	390	710	940	820	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW14-B-SEP2020	N	1	4-Chloroaniline	290 U	140	290	380	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-B-SEP2020	N	1	Atrazine	290 U	100	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-B-SEP2020	N	1	Benzyl butyl phthalate	290 U	110	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-B-SEP2020	N	1	Biphenyl (Diphenyl)	290 U	84.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-B-SEP2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	290 U	93.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-B-SEP2020	N	2	bis(2-Ethylhexyl) phthalate	570 U	230	570	760	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-B-SEP2020	N	1	Carbazole	290 U	130	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-B-SEP2020	N	1	Dibenzofuran	290 U	91.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-B-SEP2020	N	1	Diethyl phthalate	290 U	92.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-B-SEP2020	N	1	Dimethyl phthalate	290 U	90.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-B-SEP2020	N	1	Di-n-butyl phthalate	290 U	120	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-B-SEP2020	N	1	Di-n-octyl phthalate	290 U	240	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-B-SEP2020	N	1	Hexachlorobenzene	290 U	94.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-B-SEP2020	N	1	Hexachlorobutadiene	290 U	96.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-B-SEP2020	N	1	Hexachlorocyclopentadiene	290 U	94.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-B-SEP2020	N	1	Hexachloroethane	290 U	110	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-B-SEP2020	N	1	n-Nitrosodi-n-propylamine	290 U	96.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-B-SEP2020	N	1	n-Nitrosodiphenylamine	290 U	250	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-B-SEP2020	N	1	Pentachlorophenol	710 UJ	270	710	940	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW14-B-SEP2020	N	1	Phenol	290 UJ	180	290	380	330	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
C	LCS Recovery
H1	Test Hold Time
H2	Prep Hold Time
I	Surrogate recovery outside project limits.
L	Lab Blank
T	Trip Blank
TR	Trace Level Detect
V	Equipment Blank

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

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Review Questions

Method: BNASIM

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			Sample -001DL surrogates diluted to below statistically reliable levels so were not used to qualify results.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		WG285634-1 Method blank detections below LOQ for benzo(b)fluoranthene, benzo(k)flouranthene, benzo(a)pyrene, indeno(123cd)pyrene, dibenzo (ah)anthracene, benzo(ghi)perylene. Qualifications of field results not required based on these method blank detections.
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			QC batch WG285632 low bias for INDENO(123cd)PYRENE. Equipment blank result for this analyte qualified estimated with UJ/C flag/reason codes.
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Internal standard and calibration outliers (8260, 8270-SIM, 8270D) as noted in SDG case narrative were not addressed as part of this stage 2A review.
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

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Review Questions

Method: LYDKHN

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			H2 flags removed for soil samples since analytical hold times were within project criteria - 6 days versus 28 days recommended.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

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Review Questions

Method: SW6010

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		NI04ICS1 detections below the LOQ for aluminum, calcium, chromium, magnesium, potassium, sodium. Qualifications not required.
Were target analytes in the field blank less than MDL?		•		See method 6020 review for equipment blank detections.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

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Review Questions

Method: SW6020

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		NI04IMW2 detections below the LOQ for aluminum, barium, calcium, chromium, copper, lead, magnesium, manganese, nickel, thallium. Client sample -003 results qualified as non-detect at LOD with U/L flags/reason codes for aluminum, barium, calcium, copper, lead, magnesium, manganese.
Were target analytes in the field blank less than MDL?		•		Detections qualified as noted above in addition to detections for potassium and sodium.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

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Review Questions

Method: SW7196

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			H1 flags removed for soil samples -001, -002 since testing hold time was within project criteria (7 days actual versus 28 days required).
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		WG285589 detection below LOQ did not require qualification of field results.
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			MS only
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

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Review Questions

Method: SW7470

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		NI09HGW2 detection below LOQ - Sample -003 qualified with U/L flags/reason codes as non-detect at LOD based on method blank detection.
Were target analytes in the field blank less than MDL?		•		Detection qualified as non-detect based on method blank detection noted above.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

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Review Questions

Method: SW7471

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?			•	see method 7470 narrative
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

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Review Questions

Method: SW8260

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Sample -002 had 1 of 4 surrogates biased high. Sample -002 methylene chloride and toluene results were qualified estimated with J/I flags/reason codes. Sample -001 2 of 4 surrogates were biased high and 1 of 4 surrogates biased low. Sample -001RA also had at least 1 of 4 surrogates biased high and low. Sample -001 results were qualified estimated with UJ/I flags/reason codes.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?		•		Trip blank had detections below LOQ for acetone and methylene chloride.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Internal standard and calibration outliers (8260, 8270-SIM, 8270D) as noted in SDG case narrative were not addressed as part of this stage 2A review.
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Automated Data Review Detail Report for SN7404
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Review Questions

Method: SW8270

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Sample -03RA surrogates biased low for 3 of 3 acid fraction surrogates with 1 of 3 acid fraction surrogates below reject criteria. Sample -003 acid fraction field results qualified rejected with X/I flags/reason codes (base-neutral flags and qualifiers removed from database for this sample). Sample-02RA surrogates were biased low for 2 of 3 acid fraction surrogates - acid fraction target analytes were qualified with UJ/I flags/reason codes and base-neutral fraction flags were removed.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		WG285635-04RA, -01RA2 and WG285631-1 detections below LOQ for bis-2-ethylhexylphthalate. Field samples -001, -002, -003 bis-2-ethylhexylphthalate results qualified as non-detect at LOQ with U/L flags/reason codes.
Were target analytes in the field blank less than MDL?		•		Bis-2-ethylhexylphthalate detection in equipment blank was qualified non-detect as noted above due to method blank detection.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?		•		WG285631-2 high bias for benzaldehyde and WG285635-2RA high bias for bis-2-ethylhexylphthalate and low bias for caprolactam. Client samples -001 and -002 caprolactam results qualified as estimated with UJ/C flags/reason codes.
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?				Internal standard and calibration outliers (8260, 8270-SIM, 8270D) as noted in SDG case narrative were not addressed as part of this stage 2A review.
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?	•			Sample -003 acid fraction analytes qualified rejected due to low bias surrogate recoveries.

Automated Data Review Detail Report for SN7404
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Review Questions

Method: SW9045

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?			•	
Were target analytes in the method blank less than MDL?			•	
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	SN7436
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Katahdin Analytical Services, Westbrook, ME
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	January 07, 2021 - Resubmitted February 11, 2021 - revised review checklist narration for LOD/LOQ conversions and S2AVEM26 SVOC clarification.

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	BNASIM	LYDKHN	SW6010	SW6020	SW7196	SW7470	SW7471	SW8082	SW8260	SW8270	SW9045
NHFLA-MW11-B-SEP2020	SN7436-1	Solid	Field Sample/N	X	X	X		X		X	X	X	X	X
NHFLA-MW11-C-SEP2020	SN7436-2	Solid	Field Sample/N	X	X	X		X		X		X	X	
NHFLA-MW12-B-SEP2020	SN7436-3	Solid	Field Sample/N	X	X	X		X		X		X	X	
NHFLA-EB12-SEP2020	SN7436-5	Water	Equipment Blank/EB	X			X	X	X			X	X	
NHFLA-TB14-SEP2020	SN7436-4	Water	Trip Blank/TB									X		

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Katahdin Analytical Services, Westbrook, ME and were reported under sample delivery group (SDG) SN7436. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Lab Blank
- Lab Replicate RPD
- LCS Recovery
- LCS RPD
- MS Recovery
- Prep Hold Time
- Surrogate
- Test Hold Time
- Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 103 results (16.35%) out of the 630 results (sample and field QC samples) reported are qualified based on review and 26 results (4.13%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Analytical Method	Data Reviewer Comment
BNASIM	No additional comments; see Checklist for detail.
LYDKHN	No additional comments; see Checklist for detail.
SW6010	No additional comments; see Checklist for detail.
SW6020	No additional comments; see Checklist for detail.
SW7196	No additional comments; see Checklist for detail.
SW7470	No additional comments; see Checklist for detail.
SW7471	No additional comments; see Checklist for detail.
SW8082	No additional comments; see Checklist for detail.
SW8260	No additional comments; see Checklist for detail.
SW8270	No additional comments; see Checklist for detail.
SW9045	No additional comments; see Checklist for detail.

Jim Tomalia

February 11, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method BNASIM, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB12-SEP2020 (EB)/ SN7436-5	Benzo (k)fluoranthene	0.05500	< 0.047	< 0.19	ug/l	U/None	V	
NHFLA-EB12-SEP2020 (EB)/ SN7436-5	Benzo(a)pyrene	0.08200	< 0.063	< 0.19	ug/l	U/None	V	
NHFLA-EB12-SEP2020 (EB)/ SN7436-5	Benzo (g,h,i)perylene	0.1400	< 0.062	< 0.19	ug/l	U/None	V	
NHFLA-EB12-SEP2020 (EB)/ SN7436-5	Indeno(1,2,3-c,d)pyrene	0.2100	< 0.05	< 0.19	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method BNASIM, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285744-1 (LB)/ WG285744-1	Benzo (k)fluoranthene	0.08000	< 0.049	< 0.2	ug/l	U/None	L	
WG285744-1 (LB)/ WG285744-1	Benzo(a)pyrene	0.08500	< 0.066	< 0.2	ug/l	U/None	L	
WG285744-1 (LB)/ WG285744-1	Benzo (g,h,i)perylene	0.1600	< 0.065	< 0.2	ug/l	U/None	L	
WG285744-1 (LB)/ WG285744-1	Indeno(1,2,3-c,d)pyrene	0.2300	< 0.052	< 0.2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB12-SEP2020	EB	Benzo(a)pyrene	0.190	0.0820 J	0.0950 U		ug/l	L
NHFLA-EB12-SEP2020	EB	Benzo(g,h,i)perylene	0.190	0.140 JB	0.190 U		ug/l	L
NHFLA-EB12-SEP2020	EB	Benzo(k)fluoranthene	0.190	0.0550 J	0.0950 U		ug/l	L
NHFLA-EB12-SEP2020	EB	Indeno(1,2,3-c,d)pyrene	0.190	0.210 B	0.210 J	+	ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method BNASIM, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285751-1 (LB)/ WG285751-1	Dibenz (a,h)anthracene	1.800	< 1.8	< 20	ug/kg	U/None	L	
WG285751-1 (LB)/ WG285751-1	Benzo (a)anthracene	1.900	< 1.9	< 20	ug/kg	U/None	L	
WG285751-1 (LB)/ WG285751-1	Benzo(a)pyrene	4.200	< 3.3	< 20	ug/kg	U/None	L	
WG285751-1 (LB)/ WG285751-1	Benzo (k)fluoranthene	5.700	< 3.1	< 20	ug/kg	U/None	L	
WG285751-1 (LB)/ WG285751-1	Benzo (g,h,i)perylene	6.500	< 2	< 20	ug/kg	U/None	L	
WG285751-1 (LB)/ WG285751-1	Indeno(1,2,3-c,d)pyrene	8.700	< 1.9	< 20	ug/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW11-B-SEP2020	N	Benzo(g,h,i)perylene	33.0	33.0	33.0 U		ug/kg	L
NHFLA-MW11-B-SEP2020	N	Benzo(k)fluoranthene	26.0	26.0 L	26.0 U		ug/kg	L/C
NHFLA-MW11-B-SEP2020	N	Dibenz(a,h)anthracene	23.0	11.0 J	12.0 U		ug/kg	L
NHFLA-MW11-B-SEP2020	N	Indeno(1,2,3-c,d)pyrene	45.0	45.0	45.0 U		ug/kg	L
NHFLA-MW11-C-SEP2020	N	Benzo(a)pyrene	24.0	12.0 J	12.0 U		ug/kg	L
NHFLA-MW11-C-SEP2020	N	Benzo(g,h,i)perylene	24.0	20.0 J	24.0 U		ug/kg	L
NHFLA-MW11-C-SEP2020	N	Benzo(k)fluoranthene	24.0	11.0 JL	12.0 U		ug/kg	L/C
NHFLA-MW11-C-SEP2020	N	Dibenz(a,h)anthracene	24.0	11.0 J	12.0 U		ug/kg	L
NHFLA-MW11-C-SEP2020	N	Indeno(1,2,3-c,d)pyrene	24.0	22.0 J	24.0 U		ug/kg	L
NHFLA-MW12-B-SEP2020	N	Benzo(a)anthracene	22.0	8.70 J	11.0 U		ug/kg	L
NHFLA-MW12-B-SEP2020	N	Benzo(a)pyrene	22.0	16.0 J	22.0 U		ug/kg	L
NHFLA-MW12-B-SEP2020	N	Benzo(g,h,i)perylene	22.0	18.0 J	22.0 U		ug/kg	L
NHFLA-MW12-B-SEP2020	N	Benzo(k)fluoranthene	22.0	7.40 JL	11.0 U		ug/kg	L/C
NHFLA-MW12-B-SEP2020	N	Dibenz(a,h)anthracene	22.0	4.50 J	11.0 U		ug/kg	L
NHFLA-MW12-B-SEP2020	N	Indeno(1,2,3-c,d)pyrene	24.0	24.0	24.0 U		ug/kg	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method BNASIM, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285751-2 (BS)/ WG285751-2	Benzo (k)fluoranthene	124.6	56 - 123	10 - 123	percent	J/None	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW11-B-SEP2020	N	Benzo(k)fluoranthene	26.0	26.0 L	26.0 U		ug/kg	L/C
NHFLA-MW11-C-SEP2020	N	Benzo(k)fluoranthene	24.0	11.0 JL	12.0 U		ug/kg	L/C
NHFLA-MW12-B-SEP2020	N	Benzo(k)fluoranthene	22.0	7.40 JL	11.0 U		ug/kg	L/C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method LYDKHN, Prep Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of extraction found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW11-B-SEP2020 (N)/ SN7436-1		5.370	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW11-C-SEP2020 (N)/ SN7436-2		5.350	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-MW12-B-SEP2020 (N)/ SN7436-3		5.190	< 0	< 0	days	J/X	H2	Prep Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6010, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBSNI08ICS1 (LB)/ PBSNI08ICS1	Beryllium	0.01400	< 0.0068	< 0.5	mg/kg	U/None	L	
PBSNI08ICS1 (LB)/ PBSNI08ICS1	Nickel	0.06200	< 0.044	< 1	mg/kg	U/None	L	
PBSNI08ICS1 (LB)/ PBSNI08ICS1	Vanadium	0.07200	< 0.037	< 1	mg/kg	U/None	L	
PBSNI08ICS1 (LB)/ PBSNI08ICS1	Chromium	0.09500	< 0.026	< 1	mg/kg	U/None	L	
PBSNI08ICS1 (LB)/ PBSNI08ICS1	Arsenic	0.1200	< 0.068	< 0.8	mg/kg	U/None	L	
PBSNI08ICS1 (LB)/ PBSNI08ICS1	Antimony	0.1300	< 0.07	< 0.8	mg/kg	U/None	L	
PBSNI08ICS1 (LB)/ PBSNI08ICS1	Zinc	0.2400	< 0.17	< 2	mg/kg	U/None	L	
PBSNI08ICS1 (LB)/ PBSNI08ICS1	Potassium	12.00	< 2.9	< 100	mg/kg	U/None	L	
PBSNI08ICS1 (LB)/ PBSNI08ICS1	Magnesium	2.100	< 0.68	< 10	mg/kg	U/None	L	
PBSNI08ICS1 (LB)/ PBSNI08ICS1	Calcium	4.200	< 1.8	< 10	mg/kg	U/None	L	
PBSNI08ICS1 (LB)/ PBSNI08ICS1	Sodium	8.400	< 1.5	< 100	mg/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW11-B-SEP2020	N	Antimony	1.60	0.380 J	0.970 U		mg/kg	L
NHFLA-MW11-C-SEP2020	N	Antimony	0.930	0.450 J	0.580 U		mg/kg	L
NHFLA-MW12-B-SEP2020	N	Antimony	0.900	0.250 J	0.560 U		mg/kg	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB12-SEP2020 (EB)/ SN7436-5	Antimony	0.2600	< 0.11	< 2	ug/l	U/None	V	
NHFLA-EB12-SEP2020 (EB)/ SN7436-5	Aluminum	11.00	< 8.8	< 200	ug/l	U/None	V	
NHFLA-EB12-SEP2020 (EB)/ SN7436-5	Copper	2.900	< 0.37	< 6	ug/l	U/None	V	
NHFLA-EB12-SEP2020 (EB)/ SN7436-5	Magnesium	20.00	< 16	< 200	ug/l	U/None	V	
NHFLA-EB12-SEP2020 (EB)/ SN7436-5	Potassium	4120	< 122	< 4000	ug/l	U/None	V	
NHFLA-EB12-SEP2020 (EB)/ SN7436-5	Calcium	63.00	< 41	< 200	ug/l	U/None	V	
NHFLA-EB12-SEP2020 (EB)/ SN7436-5	Sodium	96.00	< 37	< 2000	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNI09IMW3 (LB)/ PBWNI09IMW3	Lead	0.2200	< 0.074	< 1	ug/l	U/None	L	
PBWNI09IMW3 (LB)/ PBWNI09IMW3	Magnesium	14.00	< 7.8	< 100	ug/l	U/None	L	
PBWNI09IMW3 (LB)/ PBWNI09IMW3	Copper	0.6600	< 0.18	< 3	ug/l	U/None	L	
PBWNI09IMW3 (LB)/ PBWNI09IMW3	Aluminum	8.500	< 4.4	< 100	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB12-SEP2020	EB	Aluminum	200	11.0 J	80.0 U		ug/l	L
NHFLA-EB12-SEP2020	EB	Copper	6.00	2.90 J	4.00 U		ug/l	L
NHFLA-EB12-SEP2020	EB	Magnesium	200	20.0 J	160 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB12-SEP2020 (EB)/ SN7436-5	Chromium, Hexavalent	0.005500	< 0.00076	< 0.025	mg/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7196, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285645-1 (LB)/ WG285645-1	Chromium, Hexavalent	0.001500	< 0.00076	< 0.025	mg/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB12-SEP2020	EB	Chromium, Hexavalent	0.0250	0.00550 J	0.0125 U		mg/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW11-B-SEP2020 (N)/ SN7436-1		6.070	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-MW11-C-SEP2020 (N)/ SN7436-2		6.030	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-MW12-B-SEP2020 (N)/ SN7436-3		5.860	< 1	< 2	days	J/X	H1	Test Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7470, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB12-SEP2020 (EB)/ SN7436-5	Mercury	0.04300	< 0.013	< 0.2	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7470, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNI09HGW2 (LB)/ PBWNI09HGW2	Mercury	0.08000	< 0.013	< 0.2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW7470

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB12-SEP2020	EB	Mercury	0.200	0.0430 J	0.100 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB12-SEP2020 (EB)/ SN7436-5	Toluene	0.7400	< 0.27	< 1	ug/l	U/None	V	
NHFLA-EB12-SEP2020 (EB)/ SN7436-5	Methylene chloride	1.300	< 1.1	< 5	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB12-SEP2020 (EB)/ SN7436-5	Bis(2-ethylhexyl) phthalate	120.0	< 1.6	< 9.5	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285743-1 (LB)/ WG285743-1	Bis(2-ethylhexyl) phthalate	130.0	< 1.7	< 10	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB12-SEP2020	EB	Bis(2-ethylhexyl) phthalate	120	120 EL	120 UJ		ug/l	L/C/I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285752-1 (LB)/ WG285752-1	Phenol	660.0	< 160	< 330	ug/kg	U/None	L	
WG285752-1 (LB)/ WG285752-1	Bis(2-ethylhexyl) phthalate	8100	< 98	< 330	ug/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW11-B-SEP2020	N	Bis(2-ethylhexyl) phthalate	9700	9700 EL	9700 U		ug/kg	L/C
NHFLA-MW11-C-SEP2020	N	Bis(2-ethylhexyl) phthalate	8700	8700 EL	8700 U		ug/kg	L/C
NHFLA-MW11-C-SEP2020	N	Phenol	2100	2100	2100 U		ug/kg	L
NHFLA-MW12-B-SEP2020	N	Bis(2-ethylhexyl) phthalate	9100	9100 EL	9100 U		ug/kg	L/C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285743-2 (BS)/ WG285743-2	Benzaldehyde	382.0	10 - 189	10 - 189	percent	J/None	C	
WG285743-2 (BS)/ WG285743-2	Bis(2-ethylhexyl) phthalate	404.0	55 - 135	10 - 135	percent	J/None	C	
WG285743-2 (BS)/ WG285743-2	2,4,6-Trichlorophenol	46.80	50 - 125	10 - 125	percent	J/UJ	C	
WG286781-2 (BS)/ WG286781-2	2,4-Dinitrophenol	3.040	12 - 143	10 - 143	percent	J/X	C	
WG286781-2 (BS)/ WG286781-2	4,6-Dinitro-2-methylphenol	34.70	44 - 137	10 - 137	percent	J/UJ	C	
WG286781-2 (BS)/ WG286781-2	Benzaldehyde	540.0	10 - 189	10 - 189	percent	J/None	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB12-SEP2020	EB	2,4,6-Trichlorophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-EB12-SEP2020	EB	Bis(2-ethylhexyl) phthalate	120	120 EL	120 UJ		ug/l	L/C/I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG285752-2 (BS)/ WG285752-2	4-Nitroaniline	0.000	14 - 82	10 - 82	percent	J/X	C	
WG285752-2 (BS)/ WG285752-2	3,3'-Dichlorobenzidine	0.000	22 - 121	10 - 121	percent	J/X	C	
WG285752-2 (BS)/ WG285752-2	N-Nitrosodiphenylamine	0.000	38 - 127	10 - 127	percent	J/X	C	
WG285752-2 (BS)/ WG285752-2	Atrazine	0.000	47 - 127	10 - 127	percent	J/X	C	
WG285752-2 (BS)/ WG285752-2	di-n-Octyl phthalate	141.3	45 - 140	10 - 140	percent	J/None	C	
WG285752-2 (BS)/ WG285752-2	4-Chloroaniline	16.35	17 - 106	10 - 106	percent	J/UJ	C	
WG285752-2 (BS)/ WG285752-2	Carbazole	19.64	50 - 123	10 - 123	percent	J/UJ	C	
WG285752-2 (BS)/ WG285752-2	Benzaldehyde	255.7	10 - 134	10 - 134	percent	J/None	C	
WG285752-2 (BS)/ WG285752-2	Caprolactam	35.03	46 - 117	10 - 117	percent	J/UJ	C	
WG285752-2 (BS)/ WG285752-2	Bis(2-ethylhexyl) phthalate	512.0	51 - 133	10 - 133	percent	J/None	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW11-B-SEP2020	N	3,3'-Dichlorobenzidine	380	290 UL	290 X		ug/kg	C
NHFLA-MW11-B-SEP2020	N	4-Chloroaniline	380	290 UL	290 UJ		ug/kg	C
NHFLA-MW11-B-SEP2020	N	4-Nitroaniline	950	710 UL	710 X		ug/kg	C
NHFLA-MW11-B-SEP2020	N	Atrazine	380	290 UL	290 X		ug/kg	C
NHFLA-MW11-B-SEP2020	N	Bis(2-ethylhexyl) phthalate	9700	9700 EL	9700 U		ug/kg	L/C
NHFLA-MW11-B-SEP2020	N	Caprolactam	380	290 UL	290 UJ		ug/kg	C
NHFLA-MW11-B-SEP2020	N	Carbazole	380	290 UL	290 UJ		ug/kg	C
NHFLA-MW11-B-SEP2020	N	N-Nitrosodiphenylamine	380	290 UL	290 X		ug/kg	C
NHFLA-MW11-C-SEP2020	N	3,3'-Dichlorobenzidine	400	300 UL	300 X		ug/kg	C
NHFLA-MW11-C-SEP2020	N	4-Chloroaniline	400	300 UL	300 UJ		ug/kg	C
NHFLA-MW11-C-SEP2020	N	4-Nitroaniline	980	740 UL	740 X		ug/kg	C
NHFLA-MW11-C-SEP2020	N	Atrazine	400	300 UL	300 X		ug/kg	C
NHFLA-MW11-C-SEP2020	N	Benzaldehyde	400	4600 L	4600 J	+	ug/kg	C
NHFLA-MW11-C-SEP2020	N	Bis(2-ethylhexyl) phthalate	8700	8700 EL	8700 U		ug/kg	L/C
NHFLA-MW11-C-SEP2020	N	Caprolactam	400	300 UL	300 UJ		ug/kg	C
NHFLA-MW11-C-SEP2020	N	Carbazole	400	300 UL	300 UJ		ug/kg	C
NHFLA-MW11-C-SEP2020	N	N-Nitrosodiphenylamine	400	300 UL	300 X		ug/kg	C

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW12-B-SEP2020	N	3,3'-Dichlorobenzidine	360	270 UL	270 X		ug/kg	C
NHFLA-MW12-B-SEP2020	N	4-Chloroaniline	360	270 UL	270 UJ		ug/kg	C
NHFLA-MW12-B-SEP2020	N	4-Nitroaniline	890	670 UL	670 X		ug/kg	C
NHFLA-MW12-B-SEP2020	N	Atrazine	360	270 UL	270 X		ug/kg	C
NHFLA-MW12-B-SEP2020	N	Bis(2-ethylhexyl) phthalate	9100	9100 EL	9100 U		ug/kg	L/C
NHFLA-MW12-B-SEP2020	N	Caprolactam	360	270 UL	270 UJ		ug/kg	C
NHFLA-MW12-B-SEP2020	N	Carbazole	360	270 UL	270 UJ		ug/kg	C
NHFLA-MW12-B-SEP2020	N	N-Nitrosodiphenylamine	360	270 UL	270 X		ug/kg	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB12-SEP2020 (EB)/ SN7436-5	Phenol-d6	0.000	10 - 90	10 - 90	percent	J/X	I	
NHFLA-EB12-SEP2020 (EB)/ SN7436-5	2-Fluorophenol	0.000	19 - 119	10 - 119	percent	J/X	I	
NHFLA-EB12-SEP2020 (EB)/ SN7436-5	Terphenyl-d14	28.60	50 - 134	10 - 134	percent	J/UJ	I	
NHFLA-EB12-SEP2020 (EB)/ SN7436-5	Nitrobenzene-d5	43.50	44 - 120	10 - 120	percent	J/UJ	I	
NHFLA-EB12-SEP2020 (EB)/ SN7436-5	2,4,6-Tribromophenol	8.160	43 - 140	10 - 140	percent	J/X	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB12-SEP2020	EB	1,2,4,5-Tetrachlorobenzene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	1,4-Dioxane (p-Dioxane)	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	2,2'-Oxybis(1-chloropropane)	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	2,4,5-Trichlorophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB12-SEP2020	EB	2,4,6-Trichlorophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-EB12-SEP2020	EB	2,4-Dichlorophenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB12-SEP2020	EB	2,4-Dimethylphenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB12-SEP2020	EB	2,4-Dinitrophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB12-SEP2020	EB	2,4-Dinitrotoluene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	2,6-Dinitrotoluene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	2-Chloronaphthalene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	2-Chlorophenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB12-SEP2020	EB	2-Methylphenol (o-Cresol)	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB12-SEP2020	EB	2-Nitroaniline	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	2-Nitrophenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB12-SEP2020	EB	3,3'-Dichlorobenzidine	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	3-Nitroaniline	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB12-SEP2020	EB	4-Bromophenyl phenyl ether	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	4-Chloro-3-methylphenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB12-SEP2020	EB	4-Chloroaniline	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	4-Chlorophenyl phenyl ether	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	4-Nitroaniline	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	4-Nitrophenol	24.0	18.0 U	18.0 X		ug/l	I

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB12-SEP2020	EB	Acetophenone	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Atrazine	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Benzaldehyde	9.50	7.10 UL	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Benzyl butyl phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Biphenyl (Diphenyl)	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Bis(2-chloroethoxy) methane	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Bis(2-ethylhexyl) phthalate	120	120 EL	120 UJ		ug/l	L/C/I
NHFLA-EB12-SEP2020	EB	Caprolactam	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Carbazole	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Cresols, m- & p-	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB12-SEP2020	EB	Dibenzofuran	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Diethyl phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Dimethyl phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Di-n-butyl phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	di-n-Octyl phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Hexachlorobenzene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Hexachlorobutadiene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Hexachlorocyclopentadiene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Hexachloroethane	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Isophorone	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Nitrobenzene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	N-Nitrosodi-n-propylamine	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	N-Nitrosodiphenylamine	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Pentachlorophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB12-SEP2020	EB	Phenol	9.50	7.10 U	7.10 X		ug/l	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Table of All Qualified Results

Test Method: BNASIM	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB12-SEP2020	EB	Benzo(a)pyrene	0.190	0.0820 J	0.0950 U		ug/l	L
NHFLA-EB12-SEP2020	EB	Benzo(g,h,i)perylene	0.190	0.140 JB	0.190 U		ug/l	L
NHFLA-EB12-SEP2020	EB	Benzo(k)fluoranthene	0.190	0.0550 J	0.0950 U		ug/l	L
NHFLA-EB12-SEP2020	EB	Indeno(1,2,3-c,d)pyrene	0.190	0.210 B	0.210 J	+	ug/l	L

Test Method: BNASIM	Extraction Method: SW3550							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW11-B-SEP2020	N	Benzo(g,h,i)perylene	33.0	33.0	33.0 U		ug/kg	L
NHFLA-MW11-B-SEP2020	N	Dibenz(a,h)anthracene	23.0	11.0 J	12.0 U		ug/kg	L
NHFLA-MW11-B-SEP2020	N	Indeno(1,2,3-c,d)pyrene	45.0	45.0	45.0 U		ug/kg	L
NHFLA-MW11-B-SEP2020	N	Benzo(k)fluoranthene	26.0	26.0 L	26.0 U		ug/kg	L/C
NHFLA-MW11-C-SEP2020	N	Benzo(a)pyrene	24.0	12.0 J	12.0 U		ug/kg	L
NHFLA-MW11-C-SEP2020	N	Benzo(g,h,i)perylene	24.0	20.0 J	24.0 U		ug/kg	L
NHFLA-MW11-C-SEP2020	N	Dibenz(a,h)anthracene	24.0	11.0 J	12.0 U		ug/kg	L
NHFLA-MW11-C-SEP2020	N	Indeno(1,2,3-c,d)pyrene	24.0	22.0 J	24.0 U		ug/kg	L
NHFLA-MW11-C-SEP2020	N	Benzo(k)fluoranthene	24.0	11.0 JL	12.0 U		ug/kg	L/C
NHFLA-MW12-B-SEP2020	N	Benzo(a)anthracene	22.0	8.70 J	11.0 U		ug/kg	L
NHFLA-MW12-B-SEP2020	N	Benzo(a)pyrene	22.0	16.0 J	22.0 U		ug/kg	L
NHFLA-MW12-B-SEP2020	N	Benzo(g,h,i)perylene	22.0	18.0 J	22.0 U		ug/kg	L
NHFLA-MW12-B-SEP2020	N	Dibenz(a,h)anthracene	22.0	4.50 J	11.0 U		ug/kg	L
NHFLA-MW12-B-SEP2020	N	Indeno(1,2,3-c,d)pyrene	24.0	24.0	24.0 U		ug/kg	L
NHFLA-MW12-B-SEP2020	N	Benzo(k)fluoranthene	22.0	7.40 JL	11.0 U		ug/kg	L/C

Test Method: SW6010	Extraction Method: SW3050							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW11-B-SEP2020	N	Antimony	1.60	0.380 J	0.970 U		mg/kg	L
NHFLA-MW11-C-SEP2020	N	Antimony	0.930	0.450 J	0.580 U		mg/kg	L
NHFLA-MW12-B-SEP2020	N	Antimony	0.900	0.250 J	0.560 U		mg/kg	L

Test Method: SW6020	Extraction Method: SW3010							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB12-SEP2020	EB	Aluminum	200	11.0 J	80.0 U		ug/l	L
NHFLA-EB12-SEP2020	EB	Copper	6.00	2.90 J	4.00 U		ug/l	L
NHFLA-EB12-SEP2020	EB	Magnesium	200	20.0 J	160 U		ug/l	L

Test Method: SW7196	Extraction Method: NONE							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB12-SEP2020	EB	Chromium, Hexavalent	0.0250	0.00550 J	0.0125 U		mg/l	L

Test Method: SW7470	Extraction Method: METHOD							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB12-SEP2020	EB	Mercury	0.200	0.0430 J	0.100 U		ug/l	L

Table of All Qualified Results

Test Method: SW8270 Extraction Method: SW3510

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB12-SEP2020	EB	1,2,4,5-Tetrachlorobenzene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	1,4-Dioxane (p-Dioxane)	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	2,2'-Oxybis(1-chloropropane)	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	2,4,5-Trichlorophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB12-SEP2020	EB	2,4,6-Trichlorophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-EB12-SEP2020	EB	2,4-Dichlorophenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB12-SEP2020	EB	2,4-Dimethylphenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB12-SEP2020	EB	2,4-Dinitrophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB12-SEP2020	EB	2,4-Dinitrotoluene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	2,6-Dinitrotoluene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	2-Chloronaphthalene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	2-Chlorophenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB12-SEP2020	EB	2-Methylphenol (o-Cresol)	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB12-SEP2020	EB	2-Nitroaniline	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	2-Nitrophenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB12-SEP2020	EB	3,3'-Dichlorobenzidine	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	3-Nitroaniline	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB12-SEP2020	EB	4-Bromophenyl phenyl ether	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	4-Chloro-3-methylphenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB12-SEP2020	EB	4-Chloroaniline	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	4-Chlorophenyl phenyl ether	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	4-Nitroaniline	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	4-Nitrophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB12-SEP2020	EB	Acetophenone	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Atrazine	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Benzaldehyde	9.50	7.10 UL	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Benzyl butyl phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Biphenyl (Diphenyl)	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Bis(2-chloroethoxy) methane	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Bis(2-ethylhexyl) phthalate	120	120 EL	120 UJ		ug/l	L/C/I
NHFLA-EB12-SEP2020	EB	Caprolactam	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Carbazole	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Cresols, m- & p-	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-EB12-SEP2020	EB	Dibenzofuran	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Diethyl phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Dimethyl phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Di-n-butyl phthalate	9.50	7.10 U	7.10 UJ		ug/l	I

Table of All Qualified Results

Test Method: SW8270	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB12-SEP2020	EB	di-n-Octyl phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Hexachlorobenzene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Hexachlorobutadiene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Hexachlorocyclopentadiene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Hexachloroethane	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Isophorone	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Nitrobenzene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	N-Nitrosodi-n-propylamine	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	N-Nitrosodiphenylamine	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB12-SEP2020	EB	Pentachlorophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-EB12-SEP2020	EB	Phenol	9.50	7.10 U	7.10 X		ug/l	I

Test Method: SW8270	Extraction Method: SW3550							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW11-B-SEP2020	N	3,3'-Dichlorobenzidine	380	290 UL	290 X		ug/kg	C
NHFLA-MW11-B-SEP2020	N	4-Chloroaniline	380	290 UL	290 UJ		ug/kg	C
NHFLA-MW11-B-SEP2020	N	4-Nitroaniline	950	710 UL	710 X		ug/kg	C
NHFLA-MW11-B-SEP2020	N	Atrazine	380	290 UL	290 X		ug/kg	C
NHFLA-MW11-B-SEP2020	N	Bis(2-ethylhexyl) phthalate	9700	9700 EL	9700 U		ug/kg	L/C
NHFLA-MW11-B-SEP2020	N	Caprolactam	380	290 UL	290 UJ		ug/kg	C
NHFLA-MW11-B-SEP2020	N	Carbazole	380	290 UL	290 UJ		ug/kg	C
NHFLA-MW11-B-SEP2020	N	N-Nitrosodiphenylamine	380	290 UL	290 X		ug/kg	C
NHFLA-MW11-C-SEP2020	N	Phenol	2100	2100	2100 U		ug/kg	L
NHFLA-MW11-C-SEP2020	N	3,3'-Dichlorobenzidine	400	300 UL	300 X		ug/kg	C
NHFLA-MW11-C-SEP2020	N	4-Chloroaniline	400	300 UL	300 UJ		ug/kg	C
NHFLA-MW11-C-SEP2020	N	4-Nitroaniline	980	740 UL	740 X		ug/kg	C
NHFLA-MW11-C-SEP2020	N	Atrazine	400	300 UL	300 X		ug/kg	C
NHFLA-MW11-C-SEP2020	N	Benzaldehyde	400	4600 L	4600 J	+	ug/kg	C
NHFLA-MW11-C-SEP2020	N	Bis(2-ethylhexyl) phthalate	8700	8700 EL	8700 U		ug/kg	L/C
NHFLA-MW11-C-SEP2020	N	Caprolactam	400	300 UL	300 UJ		ug/kg	C
NHFLA-MW11-C-SEP2020	N	Carbazole	400	300 UL	300 UJ		ug/kg	C
NHFLA-MW11-C-SEP2020	N	N-Nitrosodiphenylamine	400	300 UL	300 X		ug/kg	C
NHFLA-MW12-B-SEP2020	N	3,3'-Dichlorobenzidine	360	270 UL	270 X		ug/kg	C
NHFLA-MW12-B-SEP2020	N	4-Chloroaniline	360	270 UL	270 UJ		ug/kg	C
NHFLA-MW12-B-SEP2020	N	4-Nitroaniline	890	670 UL	670 X		ug/kg	C
NHFLA-MW12-B-SEP2020	N	Atrazine	360	270 UL	270 X		ug/kg	C
NHFLA-MW12-B-SEP2020	N	Bis(2-ethylhexyl) phthalate	9100	9100 EL	9100 U		ug/kg	L/C
NHFLA-MW12-B-SEP2020	N	Caprolactam	360	270 UL	270 UJ		ug/kg	C
NHFLA-MW12-B-SEP2020	N	Carbazole	360	270 UL	270 UJ		ug/kg	C

Table of All Qualified Results

Test Method: SW8270 Extraction Method: SW3550								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW12-B-SEP2020	N	N-Nitrosodiphenylamine	360	270 UL	270 X		ug/kg	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW11-B-SEP2020	N	Benzo(g,h,i)perylene	33.0	33.0	33.0 J	33.0 U	L
NHFLA-MW11-B-SEP2020	N	Benzo(k)fluoranthene	26.0	26.0 L	26.0 J	26.0 U	L/C
NHFLA-MW11-B-SEP2020	N	Indeno(1,2,3-c,d)pyrene	45.0	45.0	45.0 J	45.0 U	L
NHFLA-MW11-C-SEP2020	N	Benzo(k)fluoranthene	24.0	11.0 JL	12.0 U	12.0 U	L/C
NHFLA-MW12-B-SEP2020	N	Benzo(k)fluoranthene	22.0	7.40 JL	11.0 U	11.0 U	L/C
NHFLA-MW12-B-SEP2020	N	Indeno(1,2,3-c,d)pyrene	24.0	24.0	24.0 J	24.0 U	L

Modified Qualifiers for test method LYDKHN

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW11-B-SEP2020	N	Total Organic Carbon	1400	14000	14000 J	14000	
NHFLA-MW11-C-SEP2020	N	Total Organic Carbon	1400	35000	35000 J	35000	
NHFLA-MW12-B-SEP2020	N	Total Organic Carbon	810	15000	15000 J	15000	

Modified Qualifiers for test method SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW11-B-SEP2020	N	Chromium, Hexavalent	0.600	0.360 U	0.360 X	0.360 U	
NHFLA-MW11-C-SEP2020	N	Chromium, Hexavalent	0.580	0.510 J	0.510 J	0.510 J	TR
NHFLA-MW12-B-SEP2020	N	Chromium, Hexavalent	0.530	0.320 U	0.320 X	0.320 U	

Modified Qualifiers for test method SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB12-SEP2020	EB	1,2,4,5-Tetrachlorobenzene	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB12-SEP2020	EB	1,4-Dioxane (p-Dioxane)	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB12-SEP2020	EB	2,2'-Oxybis(1-chloropropane)	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB12-SEP2020	EB	2,4-Dinitrotoluene	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB12-SEP2020	EB	2,6-Dinitrotoluene	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB12-SEP2020	EB	2-Chloronaphthalene	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB12-SEP2020	EB	2-Nitroaniline	24.0	18.0 U	18.0 X	18.0 UJ	I
NHFLA-EB12-SEP2020	EB	3,3'-Dichlorobenzidine	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB12-SEP2020	EB	3-Nitroaniline	24.0	18.0 U	18.0 X	18.0 UJ	I
NHFLA-EB12-SEP2020	EB	4-Bromophenyl phenyl ether	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB12-SEP2020	EB	4-Chloroaniline	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB12-SEP2020	EB	4-Chlorophenyl phenyl ether	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB12-SEP2020	EB	4-Nitroaniline	24.0	18.0 U	18.0 X	18.0 UJ	I
NHFLA-EB12-SEP2020	EB	Acetophenone	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB12-SEP2020	EB	Atrazine	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB12-SEP2020	EB	Benzaldehyde	9.50	7.10 UL	7.10 X	7.10 UJ	I
NHFLA-EB12-SEP2020	EB	Benzyl butyl phthalate	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB12-SEP2020	EB	Biphenyl (Diphenyl)	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB12-SEP2020	EB	Bis(2-chloroethoxy) methane	9.50	7.10 U	7.10 X	7.10 UJ	I

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB12-SEP2020	EB	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB12-SEP2020	EB	Bis(2-ethylhexyl) phthalate	120	120 EL	120 J	120 UJ	L/C/I
NHFLA-EB12-SEP2020	EB	Caprolactam	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB12-SEP2020	EB	Carbazole	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB12-SEP2020	EB	Dibenzofuran	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB12-SEP2020	EB	Diethyl phthalate	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB12-SEP2020	EB	Dimethyl phthalate	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB12-SEP2020	EB	Di-n-butyl phthalate	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB12-SEP2020	EB	di-n-Octyl phthalate	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB12-SEP2020	EB	Hexachlorobenzene	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB12-SEP2020	EB	Hexachlorobutadiene	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB12-SEP2020	EB	Hexachlorocyclopentadiene	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB12-SEP2020	EB	Hexachloroethane	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB12-SEP2020	EB	Isophorone	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB12-SEP2020	EB	Nitrobenzene	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB12-SEP2020	EB	N-Nitrosodi-n-propylamine	9.50	7.10 U	7.10 X	7.10 UJ	I
NHFLA-EB12-SEP2020	EB	N-Nitrosodiphenylamine	9.50	7.10 U	7.10 X	7.10 UJ	I

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW11-B-SEP2020	N	Bis(2-ethylhexyl) phthalate	9700	9700 EL	9700 J	9700 U	L/C
NHFLA-MW11-C-SEP2020	N	Bis(2-ethylhexyl) phthalate	8700	8700 EL	8700 J	8700 U	L/C
NHFLA-MW11-C-SEP2020	N	Phenol	2100	2100	2100 J	2100 U	L
NHFLA-MW12-B-SEP2020	N	Bis(2-ethylhexyl) phthalate	9100	9100 EL	9100 J	9100 U	L/C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Rejected Results

Test Method: SW8270 Extraction Method: SW3510 Leach Method: NONE

FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-EB12-SEP2020	SN7436-5	W	EB	2,4,5-Trichlorophenol	24.0	18.0 U	18.0 X	ug/l	I
NHFLA-EB12-SEP2020	SN7436-5	W	EB	2,4,6-Trichlorophenol	9.50	7.10 UL	7.10 X	ug/l	C/I
NHFLA-EB12-SEP2020	SN7436-5	W	EB	2,4-Dichlorophenol	9.50	7.10 U	7.10 X	ug/l	I
NHFLA-EB12-SEP2020	SN7436-5	W	EB	2,4-Dimethylphenol	9.50	7.10 U	7.10 X	ug/l	I
NHFLA-EB12-SEP2020	SN7436-5	W	EB	2,4-Dinitrophenol	24.0	18.0 U	18.0 X	ug/l	I
NHFLA-EB12-SEP2020	SN7436-5	W	EB	2-Chlorophenol	9.50	7.10 U	7.10 X	ug/l	I
NHFLA-EB12-SEP2020	SN7436-5	W	EB	2-Methylphenol (o-Cresol)	9.50	7.10 U	7.10 X	ug/l	I
NHFLA-EB12-SEP2020	SN7436-5	W	EB	2-Nitrophenol	9.50	7.10 U	7.10 X	ug/l	I
NHFLA-EB12-SEP2020	SN7436-5	W	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 U	18.0 X	ug/l	I
NHFLA-EB12-SEP2020	SN7436-5	W	EB	4-Chloro-3-methylphenol	9.50	7.10 U	7.10 X	ug/l	I
NHFLA-EB12-SEP2020	SN7436-5	W	EB	4-Nitrophenol	24.0	18.0 U	18.0 X	ug/l	I
NHFLA-EB12-SEP2020	SN7436-5	W	EB	Cresols, m- & p-	9.50	7.10 U	7.10 X	ug/l	I
NHFLA-EB12-SEP2020	SN7436-5	W	EB	Pentachlorophenol	24.0	18.0 U	18.0 X	ug/l	I
NHFLA-EB12-SEP2020	SN7436-5	W	EB	Phenol	9.50	7.10 U	7.10 X	ug/l	I

Test Method: SW8270 Extraction Method: SW3550 Leach Method: NONE

FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-MW11-B-SEP2020	SN7436-1	S	N	3,3'-Dichlorobenzidine	380	290 UL	290 X	ug/kg	C
NHFLA-MW11-B-SEP2020	SN7436-1	S	N	4-Nitroaniline	950	710 UL	710 X	ug/kg	C
NHFLA-MW11-B-SEP2020	SN7436-1	S	N	Atrazine	380	290 UL	290 X	ug/kg	C
NHFLA-MW11-B-SEP2020	SN7436-1	S	N	N-Nitrosodiphenylamine	380	290 UL	290 X	ug/kg	C
NHFLA-MW11-C-SEP2020	SN7436-2	S	N	3,3'-Dichlorobenzidine	400	300 UL	300 X	ug/kg	C
NHFLA-MW11-C-SEP2020	SN7436-2	S	N	4-Nitroaniline	980	740 UL	740 X	ug/kg	C
NHFLA-MW11-C-SEP2020	SN7436-2	S	N	Atrazine	400	300 UL	300 X	ug/kg	C
NHFLA-MW11-C-SEP2020	SN7436-2	S	N	N-Nitrosodiphenylamine	400	300 UL	300 X	ug/kg	C

Automated Data Review Detail Report for SN7436
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Rejected Results

Test Method: SW8270	Extraction Method: SW3550	Leach Method: NONE							
FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-MW12-B-SEP2020	SN7436-3	S	N	3,3'-Dichlorobenzidine	360	270 UL	270 X	ug/kg	C
NHFLA-MW12-B-SEP2020	SN7436-3	S	N	4-Nitroaniline	890	670 UL	670 X	ug/kg	C
NHFLA-MW12-B-SEP2020	SN7436-3	S	N	Atrazine	360	270 UL	270 X	ug/kg	C
NHFLA-MW12-B-SEP2020	SN7436-3	S	N	N-Nitrosodiphenylamine	360	270 UL	270 X	ug/kg	C

Automated Data Review Detail Report for SN7436
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
SW6010/SW3050/NONE	3	19
SW6020/SW3010/NONE	1	8
SW7196/SW3060/NONE	3	3
SW8270/SW3510/NONE	1	1
SW8270/SW3550/NONE	3	90

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-MW11-B-SEP2020	N	2	Antimony	0.970 U	0.140	0.970	1.60	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW11-B-SEP2020	N	2	Arsenic	9.24	0.130	0.970	1.60	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW11-B-SEP2020	N	2	Cadmium	0.580 U	0.0150	0.580	0.970	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW11-B-SEP2020	N	2	Cobalt	11.3	0.0560	0.780	1.90	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW11-B-SEP2020	N	2	Selenium	0.660 J	0.330	1.40	1.90	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW11-B-SEP2020	N	2	Silver	0.160 J	0.0530	0.780	1.90	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW11-B-SEP2020	N	2	Thallium	0.970 U	0.170	0.970	2.90	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW11-C-SEP2020	N	1	Antimony	0.580 U	0.0810	0.580	0.930	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW11-C-SEP2020	N	1	Arsenic	11.7	0.0790	0.580	0.930	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW11-C-SEP2020	N	1	Cadmium	0.0720 J	0.00920	0.350	0.580	0.119999	mg/Kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-MW11-C-SEP2020	N	1	Cobalt	11.3	0.0340	0.460	1.20	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW11-C-SEP2020	N	2	Selenium	1.60 J	0.390	1.60	2.30	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW11-C-SEP2020	N	1	Thallium	1.08 J	0.100	0.580	1.70	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW12-B-SEP2020	N	1	Antimony	0.560 U	0.0790	0.560	0.900	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW12-B-SEP2020	N	1	Arsenic	9.26	0.0760	0.560	0.900	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW12-B-SEP2020	N	1	Cadmium	0.0570 J	0.00890	0.340	0.560	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW12-B-SEP2020	N	1	Cobalt	3.75	0.0330	0.450	1.10	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW12-B-SEP2020	N	1	Selenium	0.870 J	0.190	0.780	1.10	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-MW12-B-SEP2020	N	1	Thallium	0.640 J	0.0970	0.560	1.70	0.016666	mg/Kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6020/SW3010/NONE	NHFLA-EB12-SEP2020	EB	10	Antimony	0.260 J	0.110	1.00	2.00	1	ug/L
SW6020/SW3010/NONE	NHFLA-EB12-SEP2020	EB	10	Arsenic	8.00 U	4.50	8.00	10.0	5	ug/L
SW6020/SW3010/NONE	NHFLA-EB12-SEP2020	EB	10	Beryllium	0.400 U	0.0670	0.400	2.00	1	ug/L
SW6020/SW3010/NONE	NHFLA-EB12-SEP2020	EB	10	Cadmium	0.400 U	0.0590	0.400	2.00	1	ug/L
SW6020/SW3010/NONE	NHFLA-EB12-SEP2020	EB	10	Cobalt	0.600 U	0.120	0.600	2.00	1	ug/L
SW6020/SW3010/NONE	NHFLA-EB12-SEP2020	EB	10	Selenium	6.00 U	0.370	6.00	10.0	5	ug/L
SW6020/SW3010/NONE	NHFLA-EB12-SEP2020	EB	10	Thallium	0.800 U	0.120	0.800	2.00	1	ug/L

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6020/SW3010/NONE	NHFLA-EB12-SEP2020	EB	10	Vanadium	8.00 U	1.00	8.00	10.0	5	ug/L

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7196/SW3060/NONE	NHFLA-MW11-B-SEP2020	N	1.2	Chromium, Hexavalent	0.360 U	0.180	0.360	0.600	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-MW11-C-SEP2020	N	1.2	Chromium, Hexavalent	0.510 J	0.180	0.350	0.580	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-MW12-B-SEP2020	N	1.2	Chromium, Hexavalent	0.320 U	0.160	0.320	0.530	0.4	mg/kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3510/NONE	NHFLA-EB12-SEP2020	EB	1	bis(2-Ethylhexyl) phthalate	7.10 UJ	1.60	7.10	9.50	10	ug/L

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW11-B-SEP2020	N	1	1,2,4,5-Tetrachlorobenzene	290 U	160	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-B-SEP2020	N	1	2,4-Dichlorophenol	290 U	170	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-B-SEP2020	N	1	2,4-Dimethylphenol	290 U	190	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-B-SEP2020	N	1	2,4-Dinitrophenol	710 U	440	710	950	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-B-SEP2020	N	1	2,6-Dinitrotoluene	290 U	92.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-B-SEP2020	N	1	2-Chlorophenol	290 U	190	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-B-SEP2020	N	1	2-Methylphenol (o-Cresol)	290 U	230	290	380	330	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW11-B-SEP2020	N	1	2-Nitroaniline	710 U	87.0	710	950	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-B-SEP2020	N	1	3,3'-Dichlorobenzidine	290 X	130	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-B-SEP2020	N	1	4,6-Dinitro-2-methylphenol	710 U	390	710	950	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-B-SEP2020	N	1	4-Chloroaniline	290 UJ	140	290	380	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-B-SEP2020	N	1	Atrazine	290 X	100	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-B-SEP2020	N	1	Benzyl butyl phthalate	290 U	110	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-B-SEP2020	N	1	Biphenyl (Diphenyl)	290 U	85.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-B-SEP2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	290 U	94.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-B-SEP2020	N	1	bis(2-Ethylhexyl) phthalate	290 U	110	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-B-SEP2020	N	1	Carbazole	290 UJ	130	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-B-SEP2020	N	1	Dibenzofuran	290 U	92.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-B-SEP2020	N	1	Diethyl phthalate	290 U	93.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-B-SEP2020	N	1	Dimethyl phthalate	290 U	90.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-B-SEP2020	N	1	Di-n-butyl phthalate	290 U	120	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-B-SEP2020	N	1	Di-n-octyl phthalate	290 U	240	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-B-SEP2020	N	1	Hexachlorobenzene	290 U	95.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-B-SEP2020	N	1	Hexachlorobutadiene	290 U	96.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-B-SEP2020	N	1	Hexachlorocyclopentadiene	290 U	95.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-B-SEP2020	N	1	Hexachloroethane	290 U	110	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-B-SEP2020	N	1	n-Nitrosodi-n-propylamine	290 U	96.0	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-B-SEP2020	N	1	n-Nitrosodiphenylamine	290 X	250	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-B-SEP2020	N	1	Pentachlorophenol	710 U	270	710	950	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-B-SEP2020	N	1	Phenol	290 U	180	290	380	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-C-SEP2020	N	1	1,2,4,5-Tetrachlorobenzene	300 U	160	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-C-SEP2020	N	1	2,4-Dichlorophenol	300 U	180	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-C-SEP2020	N	1	2,4-Dimethylphenol	300 U	200	300	400	330	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW11-C-SEP2020	N	1	2,4-Dinitrophenol	740 U	450	740	980	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-C-SEP2020	N	1	2,6-Dinitrotoluene	300 U	95.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-C-SEP2020	N	1	2-Chlorophenol	300 U	200	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-C-SEP2020	N	1	2-Methylphenol (o-Cresol)	300 U	240	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-C-SEP2020	N	1	2-Nitroaniline	740 U	90.0	740	980	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-C-SEP2020	N	1	3,3'-Dichlorobenzidine	300 X	140	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-C-SEP2020	N	1	4,6-Dinitro-2-methylphenol	740 U	400	740	980	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-C-SEP2020	N	1	4-Chloroaniline	300 UJ	140	300	400	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-C-SEP2020	N	1	Atrazine	300 X	110	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-C-SEP2020	N	1	Benzyl butyl phthalate	300 U	110	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-C-SEP2020	N	1	Biphenyl (Diphenyl)	300 U	88.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-C-SEP2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	300 U	97.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-C-SEP2020	N	1	bis(2-Ethylhexyl) phthalate	300 U	120	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-C-SEP2020	N	1	Carbazole	300 UJ	130	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-C-SEP2020	N	1	Dibenzofuran	300 U	95.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-C-SEP2020	N	1	Diethyl phthalate	300 U	96.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-C-SEP2020	N	1	Dimethyl phthalate	300 U	94.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-C-SEP2020	N	1	Di-n-butyl phthalate	300 U	120	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-C-SEP2020	N	1	Di-n-octyl phthalate	300 U	250	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-C-SEP2020	N	1	Hexachlorobenzene	300 U	98.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-C-SEP2020	N	1	Hexachlorobutadiene	300 U	100	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-C-SEP2020	N	1	Hexachlorocyclopentadiene	300 U	98.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-C-SEP2020	N	1	Hexachloroethane	300 U	120	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-C-SEP2020	N	1	n-Nitrosodi-n-propylamine	300 U	100	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-C-SEP2020	N	1	n-Nitrosodiphenylamine	300 X	260	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW11-C-SEP2020	N	1	Pentachlorophenol	740 U	280	740	980	820	ug/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW11-C-SEP2020	N	1	Phenol	300 U	190	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW12-B-SEP2020	N	1	1,2,4,5-Tetrachlorobenzene	270 U	150	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW12-B-SEP2020	N	1	2,4-Dichlorophenol	270 U	160	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW12-B-SEP2020	N	1	2,4-Dimethylphenol	270 U	180	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW12-B-SEP2020	N	1	2,4-Dinitrophenol	670 U	410	670	890	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW12-B-SEP2020	N	1	2,6-Dinitrotoluene	270 U	86.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW12-B-SEP2020	N	1	2-Chlorophenol	270 U	180	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW12-B-SEP2020	N	1	2-Methylphenol (o-Cresol)	270 U	220	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW12-B-SEP2020	N	1	2-Nitroaniline	670 U	82.0	670	890	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW12-B-SEP2020	N	1	3,3'-Dichlorobenzidine	270 X	120	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW12-B-SEP2020	N	1	4,6-Dinitro-2-methylphenol	670 U	370	670	890	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW12-B-SEP2020	N	1	4-Chloroaniline	270 UJ	130	270	360	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-MW12-B-SEP2020	N	1	Atrazine	270 X	99.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW12-B-SEP2020	N	1	Benzyl butyl phthalate	270 U	100	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW12-B-SEP2020	N	1	Biphenyl (Diphenyl)	270 U	79.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW12-B-SEP2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	270 U	88.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW12-B-SEP2020	N	1	bis(2-Ethylhexyl) phthalate	270 U	110	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW12-B-SEP2020	N	1	Carbazole	270 UJ	120	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW12-B-SEP2020	N	1	Dibenzofuran	270 U	86.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW12-B-SEP2020	N	1	Diethyl phthalate	270 U	87.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW12-B-SEP2020	N	1	Dimethyl phthalate	270 U	85.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW12-B-SEP2020	N	1	Di-n-butyl phthalate	270 U	110	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW12-B-SEP2020	N	1	Di-n-octyl phthalate	270 U	230	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW12-B-SEP2020	N	1	Hexachlorobenzene	270 U	89.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW12-B-SEP2020	N	1	Hexachlorobutadiene	270 U	90.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW12-B-SEP2020	N	1	Hexachlorocyclopentadiene	270 U	89.0	270	360	330	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-MW12-B-SEP2020	N	1	Hexachloroethane	270 U	100	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW12-B-SEP2020	N	1	n-Nitrosodi-n-propylamine	270 U	90.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW12-B-SEP2020	N	1	n-Nitrosodiphenylamine	270 X	240	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-MW12-B-SEP2020	N	1	Pentachlorophenol	670 U	260	670	890	820	ug/kg
SW8270/SW3550/NONE	NHFLA-MW12-B-SEP2020	N	1	Phenol	270 U	170	270	360	330	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
C	LCS Recovery
H1	Test Hold Time
H2	Prep Hold Time
I	Surrogate recovery outside project limits.
L	Lab Blank
TR	Trace Level Detect
V	Equipment Blank

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Automated Data Review Detail Report for SN7436
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Review Questions

Method: LYDKHN

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			Hold time flags were removed - sample analyzed in 5 days versus 28 days project requirement.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Automated Data Review Detail Report for SN7436
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Review Questions

Method: SW6010

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC NI08ICS1 had detections below the LOQ for antimony, arsenic, beryllium, calcium, chromium, magnesium, nickel, potassium, sodium, vanadium, zinc. Client samples-001, -002 and -003 antimony results were qualified as non-detect at LOD with U/L flags/reason codes.
Were target analytes in the field blank less than MDL?		•		See method 6020 narration for equipment blank detections and qualification.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

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Review Questions

Method: SW6020

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC NI09IMW3 had detections below LOQ for aluminum, copper, lead, magnesium. Client sample -005 results for aluminum, copper and magnesium were qualified as non-detect at the LOD with U/L flags/reason codes.
Were target analytes in the field blank less than MDL?		•		Equipment blank detections as noted above show qualified detections below LOQ in addition to antimony, calcium, potassium (above LOQ), sodium.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only.
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

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Review Questions

Method: SW7196

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			H1 code removed for soil sample since they were analyzed less than 28 day project criteria.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		Batch WG285645 detection below LOQ resulted in qualification of client sample -005 with U flag and L reason code - non-detect at LOD.
Were target analytes in the field blank less than MDL?		•		See above for equipment blank detection qualification.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?			•	MS only
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

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Review Questions

Method: SW7470

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch NI09HGW2 detection below LOQ resulted in qualification of sample -005 with U flag for non-detect at LOD and L reason code.
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

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Review Questions

Method: SW7471

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

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Review Questions

Method: SW8082

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were surrogate recoveries within project acceptance limits?		•		WG286875-2 LCS surrogates were biased high for 2 of 2 surrogates. Qualification of field data not required based on this QC surrogate recovery high bias. (NOTE: data not reflected in summary tables since not relevant to field qualifications)
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

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Review Questions

Method: SW8260

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?		•		Trip blank non-detect but equipment blank detections for methylene chloride and toluene below LOQ.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

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Review Questions

Method: SW8270

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			NOTE: sample -005RA re-extracted out of hold but data not used for final reporting.
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Sample -005 (equipment blank) acid fraction surrogates biased low below lower rejection criteria for all 3 surrogates and biased low but above rejection criteria for 2 of 3 base-neutral fraction surrogates. Field sample -005 acid fraction results qualified rejected with X/L flags/reason codes and base-neutral fraction results qualified with J flags if detected and UJ flags if non-detect with L reason codes. NOTE: base-neutral fraction results flags were changed from X to UJ/J in database.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC WG285743-1 detect above LOQ for bis-2-ethylhexylphthalate. Sample -005 result for this analyte qualified as non-detect at revised LOQ (changed from 9.5 to detected amount of 120) with U/L flag/reason code. QC WG285752-1 detections above LOQ for bis-2-ethylhexylphthalate and phenol. Sample -001, -002 and -003 bis-2-ethylhexylphthalate results and sample -002 phenol results qualified as non-detect at revised LOQ's (elevated to detected levels) with U/L flags/reason codes
Were target analytes in the field blank less than MDL?		•		See above for equipment blank (-005) detections qualified due to method blank detections.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?		•		QC WG285743-2 recoveries biased low for 2,4,6-trichlorophenol and biased high for benzaldehyde and bis-2-ethylhexylphthalate. Sample -005 bis-2-ethylhexylphthalate already qualified as non-detect due to method blank detection but C reason code added to U/L/I flags.QC WG286781-2 had a high bias recovery for benzaldehyde and QC WG285752-2 had high bias for benzaldehyde, bis-2-ethylhexylphthalate, di-n-octylphthalate and low bias for 4-chloroaniline, caprolactam and carbazole and low bias below reject criteria for 4-nitroaniline, n-nitrosodinpropylamine, atrazine and 3,3-dichlorobenzidine. Sample -001, -002, -003 field results associated with analytes below reject criteria were qualified as rejected with X/C flag/reason codes. Sample -001, -002, -003 field results associated with analytes with low bias but above reject criteria were qualified UJ with C reason codes. Sample -002 benzaldehyde and samples -001,-002, -003 bis-2-ethylhexylphthalate results were qualified estimated with J/C flags/reason codes unless already qualified as non-detect due to method blank detections noted above.

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Review Questions

Method: SW8270

Review Questions	Yes	No	NA	Comment
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Internal standard and calibration outliers as noted in SDG case narrative were not addressed as part of this stage 2A review.
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?	•			Sample -005 acid fraction analytes and sample -001 and -002 and -003 4-nitroaniline, n-nitrosodiphenylamine, atrazine, 3,3-dichlorobenzidine.

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Review Questions

Method: SW9045

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?			•	
Were target analytes in the method blank less than MDL?			•	
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	SN7601
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Katahdin Analytical Services, Westbrook, ME
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	December 29, 2020- Resubmitted Januay 26, 2021 based on DoD Chemist review. REV2-2/11/21 - S2AVEM-7 clarifications.

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	BNASIM	SW6010	SW6020	SW7196	SW7470	SW7471
NHFLA-BH44-A-SEP2020	SN7601-5	Soil	Field Sample/N	X	X		X		X
NHFLA-BH44-B-SEP2020	SN7601-6	Soil	Field Sample/N	X	X		X		X
NHFLA-BH45-A-SEP2020	SN7601-7	Soil	Field Sample/N	X	X		X		X
NHFLA-BH45-B-SEP2020	SN7601-8	Soil	Field Sample/N	X	X		X		X
NHFLA-BH49-A-SEP2020	SN7601-1	Soil	Field Sample/N	X	X		X		X
NHFLA-BH49-B-SEP2020	SN7601-2	Soil	Field Sample/N	X	X		X		X
NHFLA-BH51-A-SEP2020	SN7601-3	Soil	Field Sample/N	X	X		X		X
NHFLA-BH51-B-SEP2020	SN7601-4	Soil	Field Sample/N	X	X		X		X
NHFLA-EB13-SEP2020	SN7601-9	Water	Equipment Blank/EB	X		X	X	X	

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Katahdin Analytical Services, Westbrook, ME and were reported under sample delivery group (SDG) SN7601. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Extracted Internal Standard
- Lab Blank
- Lab Replicate RPD
- LCS Recovery
- LCS RPD
- MS Recovery
- Prep Hold Time
- Surrogate
- Test Hold Time

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 31 results (8.40%) out of the 369 results (sample and field QC samples) reported are qualified based on review and 0 results (0.00%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

TRIP BLANK RESULTS NOT REPORTED - VOC only.

Analytical Method	Data Reviewer Comment
BNASIM	No additional comments; see Checklist for detail.
SW6010	No additional comments; see Checklist for detail.
SW6020	No additional comments; see Checklist for detail.
SW7196	No additional comments; see Checklist for detail.
SW7470	No additional comments; see Checklist for detail.
SW7471	No additional comments; see Checklist for detail.

Jim Tomalia

February 11, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method BNASIM, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB13-SEP2020 (EB)/ SN7601-9	Benzo(a)pyrene	0.06800	< 0.062	< 0.19	ug/l	U/None	V	
NHFLA-EB13-SEP2020 (EB)/ SN7601-9	Benzo (g,h,i)perylene	0.1200	< 0.061	< 0.19	ug/l	U/None	V	
NHFLA-EB13-SEP2020 (EB)/ SN7601-9	Indeno(1,2,3-c,d)pyrene	0.2000	< 0.049	< 0.19	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method BNASIM, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG286127-1 (LB)/ WG286127-1	Benzo(a)pyrene	0.06700	< 0.066	< 0.2	ug/l	U/None	L	
WG286127-1 (LB)/ WG286127-1	Benzo (g,h,i)perylene	0.1200	< 0.065	< 0.2	ug/l	U/None	L	
WG286127-1 (LB)/ WG286127-1	Indeno(1,2,3-c,d)pyrene	0.2100	< 0.052	< 0.2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB13-SEP2020	EB	Benzo(a)pyrene	0.190	0.0680 J	0.0940 U		ug/l	L
NHFLA-EB13-SEP2020	EB	Benzo(g,h,i)perylene	0.190	0.120 JB	0.190 U		ug/l	L
NHFLA-EB13-SEP2020	EB	Indeno(1,2,3-c,d)pyrene	0.200	0.200 B	0.200 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method BNASIM, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG286000-1 (LB)/ WG286000-1	Benzo (g,h,i)perylene	5.300	< 2	< 20	ug/kg	U/None	L	
WG286000-1 (LB)/ WG286000-1	Indeno(1,2,3-c,d)pyrene	8.600	< 1.9	< 20	ug/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-BH44-A-SEP2020	N	Benzo(g,h,i)perylene	22.0	11.0 J	11.0 U		ug/kg	L
NHFLA-BH44-A-SEP2020	N	Indeno(1,2,3-c,d)pyrene	22.0	13.0 J	22.0 U		ug/kg	L
NHFLA-BH45-A-SEP2020	N	Benzo(g,h,i)perylene	24.0	9.40 J	12.0 U		ug/kg	L
NHFLA-BH45-A-SEP2020	N	Indeno(1,2,3-c,d)pyrene	24.0	13.0 J	24.0 U		ug/kg	L
NHFLA-BH45-B-SEP2020	N	Benzo(g,h,i)perylene	23.0	11.0 J	11.0 U		ug/kg	L
NHFLA-BH45-B-SEP2020	N	Indeno(1,2,3-c,d)pyrene	23.0	14.0 J	23.0 U		ug/kg	L
NHFLA-BH49-A-SEP2020	N	Benzo(g,h,i)perylene	27.0	16.0 J	27.0 U		ug/kg	L
NHFLA-BH49-A-SEP2020	N	Indeno(1,2,3-c,d)pyrene	27.0	19.0 J	27.0 U		ug/kg	L
NHFLA-BH49-B-SEP2020	N	Benzo(g,h,i)perylene	21.0	14.0 J	21.0 U		ug/kg	L
NHFLA-BH49-B-SEP2020	N	Indeno(1,2,3-c,d)pyrene	21.0	18.0 J	21.0 U		ug/kg	L
NHFLA-BH51-A-SEP2020	N	Benzo(g,h,i)perylene	24.0	11.0 J	12.0 U		ug/kg	L
NHFLA-BH51-A-SEP2020	N	Indeno(1,2,3-c,d)pyrene	24.0	14.0 J	24.0 U		ug/kg	L
NHFLA-BH51-B-SEP2020	N	Benzo(g,h,i)perylene	25.0	17.0 J	25.0 U		ug/kg	L
NHFLA-BH51-B-SEP2020	N	Indeno(1,2,3-c,d)pyrene	25.0	22.0 J	25.0 U		ug/kg	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6010, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBSNI11ICS1 (LB)/ PBSNI11ICS1	Chromium	0.08700	< 0.026	< 1	mg/kg	U/None	L	
PBSNI11ICS1 (LB)/ PBSNI11ICS1	Magnesium	1.600	< 0.68	< 10	mg/kg	U/None	L	
PBSNI11ICS1 (LB)/ PBSNI11ICS1	Aluminum	3.200	< 0.71	< 30	mg/kg	U/None	L	
PBSNI11ICS1 (LB)/ PBSNI11ICS1	Sodium	3.900	< 1.5	< 100	mg/kg	U/None	L	
PBSNI11ICS1 (LB)/ PBSNI11ICS1	Potassium	9.700	< 2.9	< 100	mg/kg	U/None	L	
PBSNI15ICS1 (LB)/ PBSNI15ICS1	Barium	0.03800	< 0.025	< 0.5	mg/kg	U/None	L	
PBSNI15ICS1 (LB)/ PBSNI15ICS1	Chromium	0.06700	< 0.026	< 1	mg/kg	U/None	L	
PBSNI15ICS1 (LB)/ PBSNI15ICS1	Nickel	0.06700	< 0.044	< 1	mg/kg	U/None	L	
PBSNI15ICS1 (LB)/ PBSNI15ICS1	Arsenic	0.1300	< 0.068	< 0.8	mg/kg	U/None	L	
PBSNI15ICS1 (LB)/ PBSNI15ICS1	Magnesium	1.700	< 0.68	< 10	mg/kg	U/None	L	
PBSNI15ICS1 (LB)/ PBSNI15ICS1	Aluminum	4.800	< 0.71	< 30	mg/kg	U/None	L	
PBSNI15ICS1 (LB)/ PBSNI15ICS1	Calcium	4.800	< 1.8	< 10	mg/kg	U/None	L	
PBSNI15ICS1 (LB)/ PBSNI15ICS1	Sodium	5.000	< 1.5	< 100	mg/kg	U/None	L	
PBSNI15ICS1 (LB)/ PBSNI15ICS1	Potassium	8.500	< 2.9	< 100	mg/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-BH44-A-SEP2020	N	Sodium	120	75.9 J	120 U		mg/kg	L
NHFLA-BH44-B-SEP2020	N	Sodium	100	62.5 J	100 U		mg/kg	L
NHFLA-BH45-A-SEP2020	N	Sodium	110	76.3 J	110 U		mg/kg	L
NHFLA-BH45-B-SEP2020	N	Sodium	100	65.1 J	100 U		mg/kg	L
NHFLA-BH49-A-SEP2020	N	Sodium	130	72.7 J	130 U		mg/kg	L
NHFLA-BH49-B-SEP2020	N	Sodium	93.0	64.2 J	93.0 U		mg/kg	L
NHFLA-BH51-A-SEP2020	N	Sodium	95.0	60.5 J	95.0 U		mg/kg	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB13-SEP2020 (EB)/ SN7601-9	Beryllium	0.06100	< 0.034	< 1	ug/l	U/None	V	
NHFLA-EB13-SEP2020 (EB)/ SN7601-9	Cadmium	0.06500	< 0.029	< 1	ug/l	U/None	V	
NHFLA-EB13-SEP2020 (EB)/ SN7601-9	Cobalt	0.06900	< 0.06	< 1	ug/l	U/None	V	
NHFLA-EB13-SEP2020 (EB)/ SN7601-9	Lead	0.09800	< 0.075	< 1	ug/l	U/None	V	
NHFLA-EB13-SEP2020 (EB)/ SN7601-9	Antimony	0.1200	< 0.055	< 1	ug/l	U/None	V	
NHFLA-EB13-SEP2020 (EB)/ SN7601-9	Thallium	0.1200	< 0.06	< 1	ug/l	U/None	V	
NHFLA-EB13-SEP2020 (EB)/ SN7601-9	Manganese	0.5400	< 0.35	< 2	ug/l	U/None	V	
NHFLA-EB13-SEP2020 (EB)/ SN7601-9	Copper	0.6600	< 0.19	< 3	ug/l	U/None	V	
NHFLA-EB13-SEP2020 (EB)/ SN7601-9	Barium	1.400	< 0.27	< 2	ug/l	U/None	V	
NHFLA-EB13-SEP2020 (EB)/ SN7601-9	Magnesium	14.00	< 8	< 100	ug/l	U/None	V	
NHFLA-EB13-SEP2020 (EB)/ SN7601-9	Sodium	160.0	< 19	< 1000	ug/l	U/None	V	
NHFLA-EB13-SEP2020 (EB)/ SN7601-9	Calcium	24.00	< 21	< 100	ug/l	U/None	V	
NHFLA-EB13-SEP2020 (EB)/ SN7601-9	Aluminum	8.300	< 4.4	< 100	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNI11IMW2 (LB)/ PBWNI11IMW2	Lead	0.07500	< 0.074	< 1	ug/l	U/None	L	
PBWNI11IMW2 (LB)/ PBWNI11IMW2	Chromium	0.3300	< 0.22	< 5	ug/l	U/None	L	
PBWNI11IMW2 (LB)/ PBWNI11IMW2	Manganese	1.800	< 0.35	< 2	ug/l	U/None	L	
PBWNI11IMW2 (LB)/ PBWNI11IMW2	Magnesium	15.00	< 7.8	< 100	ug/l	U/None	L	
PBWNI11IMW2 (LB)/ PBWNI11IMW2	Copper	2.200	< 0.18	< 3	ug/l	U/None	L	
PBWNI11IMW2 (LB)/ PBWNI11IMW2	Iron	21.00	< 13	< 100	ug/l	U/None	L	
PBWNI11IMW2 (LB)/ PBWNI11IMW2	Aluminum	21.00	< 4.4	< 100	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB13-SEP2020	EB	Aluminum	100	8.30 J	40.0 U		ug/l	L
NHFLA-EB13-SEP2020	EB	Copper	3.00	0.660 JB	2.00 U		ug/l	L
NHFLA-EB13-SEP2020	EB	Lead	1.00	0.0980 J	0.500 U		ug/l	L
NHFLA-EB13-SEP2020	EB	Magnesium	100	14.0 J	80.0 U		ug/l	L
NHFLA-EB13-SEP2020	EB	Manganese	2.00	0.540 JB	1.00 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB13-SEP2020 (EB)/ SN7601-9	Chromium, Hexavalent	0.002800	< 0.00076	< 0.025	mg/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7196, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG286004-1 (LB)/ WG286004-1	Chromium, Hexavalent	0.002900	< 0.00076	< 0.025	mg/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB13-SEP2020	EB	Chromium, Hexavalent	0.0250	0.00280 J	0.0125 U		mg/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-BH44-A-SEP2020 (N)/ SN7601-5		5.870	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-BH44-B-SEP2020 (N)/ SN7601-6		5.860	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-BH45-A-SEP2020 (N)/ SN7601-7		5.830	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-BH45-B-SEP2020 (N)/ SN7601-8		5.830	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-BH49-A-SEP2020 (N)/ SN7601-1		5.950	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-BH49-B-SEP2020 (N)/ SN7601-2		5.940	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-BH51-A-SEP2020 (N)/ SN7601-3		5.920	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-BH51-B-SEP2020 (N)/ SN7601-4		5.920	< 1	< 2	days	J/X	H1	Test Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7470, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB13-SEP2020 (EB)/ SN7601-9	Mercury	0.02100	< 0.013	< 0.2	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7470, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNI14HGW1 (LB)/ PBWNI14HGW1	Mercury	0.07000	< 0.013	< 0.2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW7470

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB13-SEP2020	EB	Mercury	0.200	0.0210 J	0.100 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Table of All Qualified Results

Test Method: BNASIM	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB13-SEP2020	EB	Benzo(a)pyrene	0.190	0.0680 J	0.0940 U		ug/l	L
NHFLA-EB13-SEP2020	EB	Benzo(g,h,i)perylene	0.190	0.120 JB	0.190 U		ug/l	L
NHFLA-EB13-SEP2020	EB	Indeno(1,2,3-c,d)pyrene	0.200	0.200 B	0.200 U		ug/l	L

Test Method: BNASIM	Extraction Method: SW3550							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-BH44-A-SEP2020	N	Benzo(g,h,i)perylene	22.0	11.0 J	11.0 U		ug/kg	L
NHFLA-BH44-A-SEP2020	N	Indeno(1,2,3-c,d)pyrene	22.0	13.0 J	22.0 U		ug/kg	L
NHFLA-BH45-A-SEP2020	N	Benzo(g,h,i)perylene	24.0	9.40 J	12.0 U		ug/kg	L
NHFLA-BH45-A-SEP2020	N	Indeno(1,2,3-c,d)pyrene	24.0	13.0 J	24.0 U		ug/kg	L
NHFLA-BH45-B-SEP2020	N	Benzo(g,h,i)perylene	23.0	11.0 J	11.0 U		ug/kg	L
NHFLA-BH45-B-SEP2020	N	Indeno(1,2,3-c,d)pyrene	23.0	14.0 J	23.0 U		ug/kg	L
NHFLA-BH49-A-SEP2020	N	Benzo(g,h,i)perylene	27.0	16.0 J	27.0 U		ug/kg	L
NHFLA-BH49-A-SEP2020	N	Indeno(1,2,3-c,d)pyrene	27.0	19.0 J	27.0 U		ug/kg	L
NHFLA-BH49-B-SEP2020	N	Benzo(g,h,i)perylene	21.0	14.0 J	21.0 U		ug/kg	L
NHFLA-BH49-B-SEP2020	N	Indeno(1,2,3-c,d)pyrene	21.0	18.0 J	21.0 U		ug/kg	L
NHFLA-BH51-A-SEP2020	N	Benzo(g,h,i)perylene	24.0	11.0 J	12.0 U		ug/kg	L
NHFLA-BH51-A-SEP2020	N	Indeno(1,2,3-c,d)pyrene	24.0	14.0 J	24.0 U		ug/kg	L
NHFLA-BH51-B-SEP2020	N	Benzo(g,h,i)perylene	25.0	17.0 J	25.0 U		ug/kg	L
NHFLA-BH51-B-SEP2020	N	Indeno(1,2,3-c,d)pyrene	25.0	22.0 J	25.0 U		ug/kg	L

Test Method: SW6010	Extraction Method: SW3050							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-BH44-A-SEP2020	N	Sodium	120	75.9 J	120 U		mg/kg	L
NHFLA-BH44-B-SEP2020	N	Sodium	100	62.5 J	100 U		mg/kg	L
NHFLA-BH45-A-SEP2020	N	Sodium	110	76.3 J	110 U		mg/kg	L
NHFLA-BH45-B-SEP2020	N	Sodium	100	65.1 J	100 U		mg/kg	L
NHFLA-BH49-A-SEP2020	N	Sodium	130	72.7 J	130 U		mg/kg	L
NHFLA-BH49-B-SEP2020	N	Sodium	93.0	64.2 J	93.0 U		mg/kg	L
NHFLA-BH51-A-SEP2020	N	Sodium	95.0	60.5 J	95.0 U		mg/kg	L

Test Method: SW6020	Extraction Method: SW3010							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB13-SEP2020	EB	Aluminum	100	8.30 J	40.0 U		ug/l	L
NHFLA-EB13-SEP2020	EB	Copper	3.00	0.660 JB	2.00 U		ug/l	L
NHFLA-EB13-SEP2020	EB	Lead	1.00	0.0980 J	0.500 U		ug/l	L
NHFLA-EB13-SEP2020	EB	Magnesium	100	14.0 J	80.0 U		ug/l	L
NHFLA-EB13-SEP2020	EB	Manganese	2.00	0.540 JB	1.00 U		ug/l	L

Test Method: SW7196	Extraction Method: NONE							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB13-SEP2020	EB	Chromium, Hexavalent	0.0250	0.00280 J	0.0125 U		mg/l	L

Table of All Qualified Results

Test Method: SW7470	Extraction Method: METHOD							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB13-SEP2020	EB	Mercury	0.200	0.0210 J	0.100 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB13-SEP2020	EB	Indeno(1,2,3-c,d)pyrene	0.200	0.200 B	0.200 J	0.200 U	L

Modified Qualifiers for test method SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-BH51-B-SEP2020	N	Sodium	110	49.2 J	57.0 U	49.2 J	TR

Modified Qualifiers for test method SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-BH44-A-SEP2020	N	Chromium, Hexavalent	0.610	0.370 U	0.370 X	0.370 U	
NHFLA-BH44-B-SEP2020	N	Chromium, Hexavalent	0.610	0.180 J	0.180 J	0.180 J	TR
NHFLA-BH45-A-SEP2020	N	Chromium, Hexavalent	0.660	0.390 U	0.390 X	0.390 U	
NHFLA-BH45-B-SEP2020	N	Chromium, Hexavalent	0.560	0.340 U	0.340 X	0.340 U	
NHFLA-BH49-A-SEP2020	N	Chromium, Hexavalent	0.660	0.390 U	0.390 X	0.390 U	
NHFLA-BH49-B-SEP2020	N	Chromium, Hexavalent	0.620	0.370 U	0.370 X	0.370 U	
NHFLA-BH51-A-SEP2020	N	Chromium, Hexavalent	0.660	0.400 U	0.400 X	0.400 U	
NHFLA-BH51-B-SEP2020	N	Chromium, Hexavalent	0.620	0.370 U	0.370 X	0.370 U	

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

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Rejected Results

--No Records Found--

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Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
SW6010/SW3050/NONE	8	53
SW7196/SW3060/NONE	8	8
SW7471/METHOD/NONE	6	6

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-BH44-A-SEP2020	N	1	Antimony	0.500 J	0.0860	0.610	0.980	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH44-A-SEP2020	N	1	Arsenic	10.0	0.0830	0.610	0.980	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH44-A-SEP2020	N	1	Cadmium	0.587 J	0.00970	0.370	0.610	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH44-A-SEP2020	N	1	Cobalt	7.00	0.0360	0.490	1.20	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH44-A-SEP2020	N	1	Selenium	1.50	0.210	0.860	1.20	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH44-A-SEP2020	N	1	Thallium	0.820 J	0.110	0.610	1.80	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH44-B-SEP2020	N	2	Antimony	0.970 J	0.150	1.00	1.70	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH44-B-SEP2020	N	2	Arsenic	19.3	0.140	1.00	1.70	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH44-B-SEP2020	N	2	Cadmium	0.216 J	0.0160	0.620	1.00	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH44-B-SEP2020	N	2	Cobalt	7.43	0.0600	0.830	2.10	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH44-B-SEP2020	N	2	Selenium	3.50	0.350	1.40	2.10	0.173333	mg/Kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-BH44-B-SEP2020	N	2	Silver	0.902 J	0.0560	0.830	2.10	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH44-B-SEP2020	N	2	Thallium	1.10 J	0.180	1.00	3.10	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH45-A-SEP2020	N	2	Antimony	0.710 J	0.150	1.10	1.70	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH45-A-SEP2020	N	2	Arsenic	14.6	0.150	1.10	1.70	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH45-A-SEP2020	N	2	Cadmium	0.791 J	0.0170	0.640	1.10	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH45-A-SEP2020	N	2	Cobalt	9.29	0.0620	0.850	2.10	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH45-A-SEP2020	N	2	Selenium	1.90 J	0.360	1.50	2.10	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH45-A-SEP2020	N	2	Silver	0.930 J	0.0580	0.850	2.10	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH45-A-SEP2020	N	2	Thallium	0.760 J	0.180	1.10	3.20	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH45-B-SEP2020	N	1	Antimony	0.510 U	0.0720	0.510	0.820	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH45-B-SEP2020	N	1	Arsenic	10.3	0.0700	0.510	0.820	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH45-B-SEP2020	N	1	Cadmium	0.294 J	0.00810	0.310	0.510	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH45-B-SEP2020	N	1	Cobalt	8.47	0.0300	0.410	1.00	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH45-B-SEP2020	N	1	Selenium	1.20	0.170	0.720	1.00	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH45-B-SEP2020	N	1	Thallium	0.260 J	0.0880	0.510	1.50	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH49-A-SEP2020	N	2	Antimony	0.960 J	0.190	1.30	2.20	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH49-A-SEP2020	N	2	Arsenic	21.1	0.180	1.30	2.20	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH49-A-SEP2020	N	2	Cadmium	0.716 J	0.0210	0.810	1.30	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH49-A-SEP2020	N	2	Cobalt	15.9	0.0780	1.10	2.70	0.766666	mg/Kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-BH49-A-SEP2020	N	2	Selenium	2.20 J	0.460	1.90	2.70	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH49-A-SEP2020	N	2	Silver	0.962 J	0.0730	1.10	2.70	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH49-A-SEP2020	N	2	Thallium	0.850 J	0.230	1.30	4.00	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH49-A-SEP2020	N	2	Vanadium	64.6	0.100	1.10	2.70	2.6	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH49-B-SEP2020	N	2	Antimony	1.20 J	0.130	0.930	1.50	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH49-B-SEP2020	N	2	Arsenic	15.7	0.130	0.930	1.50	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH49-B-SEP2020	N	2	Cadmium	0.455 J	0.0150	0.560	0.930	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH49-B-SEP2020	N	2	Cobalt	13.4	0.0540	0.750	1.90	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH49-B-SEP2020	N	2	Selenium	1.90	0.320	1.30	1.90	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH49-B-SEP2020	N	2	Silver	0.807 J	0.0500	0.750	1.90	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH49-B-SEP2020	N	2	Thallium	0.940 J	0.160	0.930	2.80	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH51-A-SEP2020	N	1	Antimony	0.470 J	0.0670	0.480	0.760	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH51-A-SEP2020	N	1	Arsenic	11.3	0.0650	0.480	0.760	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH51-A-SEP2020	N	1	Cadmium	0.420 J	0.00750	0.280	0.480	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH51-A-SEP2020	N	1	Cobalt	6.95	0.0280	0.380	0.950	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH51-A-SEP2020	N	1	Selenium	1.60	0.160	0.670	0.950	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH51-A-SEP2020	N	1	Thallium	0.820 J	0.0820	0.480	1.40	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH51-B-SEP2020	N	1	Antimony	0.310 J	0.0790	0.570	0.910	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH51-B-SEP2020	N	1	Arsenic	15.4	0.0770	0.570	0.910	0.226666	mg/Kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-BH51-B-SEP2020	N	1	Cadmium	0.0610 J	0.00900	0.340	0.570	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH51-B-SEP2020	N	1	Cobalt	5.53	0.0330	0.450	1.10	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH51-B-SEP2020	N	1	Selenium	1.10	0.190	0.790	1.10	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH51-B-SEP2020	N	1	Thallium	0.790 J	0.0980	0.570	1.70	0.016666	mg/Kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7196/SW3060/NONE	NHFLA-BH44-A-SEP2020	N	1.2	Chromium, Hexavalent	0.370 U	0.180	0.370	0.610	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-BH44-B-SEP2020	N	1.2	Chromium, Hexavalent	0.180 J	0.180	0.360	0.610	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-BH45-A-SEP2020	N	1.2	Chromium, Hexavalent	0.390 U	0.200	0.390	0.660	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-BH45-B-SEP2020	N	1.2	Chromium, Hexavalent	0.340 U	0.170	0.340	0.560	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-BH49-A-SEP2020	N	1.2	Chromium, Hexavalent	0.390 U	0.200	0.390	0.660	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-BH49-B-SEP2020	N	1.2	Chromium, Hexavalent	0.370 U	0.190	0.370	0.620	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-BH51-A-SEP2020	N	1.2	Chromium, Hexavalent	0.400 U	0.200	0.400	0.660	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-BH51-B-SEP2020	N	1.2	Chromium, Hexavalent	0.370 U	0.180	0.370	0.620	0.4	mg/kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7471/METHOD/NONE	NHFLA-BH44-A-SEP2020	N	1	Mercury	0.152	0.00520	0.0170	0.0340	0.033	mg/Kg
SW7471/METHOD/NONE	NHFLA-BH45-A-SEP2020	N	1	Mercury	0.0724	0.00520	0.0170	0.0340	0.033	mg/Kg
SW7471/METHOD/NONE	NHFLA-BH49-A-SEP2020	N	1	Mercury	0.106	0.00550	0.0180	0.0360	0.033	mg/Kg
SW7471/METHOD/NONE	NHFLA-BH49-B-SEP2020	N	1	Mercury	0.0550	0.00640	0.0210	0.0410	0.033	mg/Kg
SW7471/METHOD/NONE	NHFLA-BH51-A-SEP2020	N	1	Mercury	0.0951	0.00540	0.0180	0.0350	0.033	mg/Kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7471/METHOD/NONE	NHFLA-BH51-B-SEP2020	N	1	Mercury	0.0618	0.00600	0.0200	0.0390	0.033	mg/Kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
H1	Test Hold Time
L	Lab Blank
TR	Trace Level Detect
V	Equipment Blank

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: BNASIM (GC/MS-SIM Analysis by SW8270)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG286000-1 detections below LOQ for indeno(123cd)pyrene and benzo (ghi)perylene. These results qualified in samples -001, -002, -003, -004, -005, -007, -008 with U flags and L reason codes. QC batch WG286127-1 detections below LOQ for benzo(a)pyrene, benzo(ghi)perylene and above LOQ for indeno(12cd)pyrene (0.21ug/l). Client sample -009 results for benzo(a)pyrene and benzo(ghi)perylene qualified U/L flags/reason codes and indeno(123cd)pyrene qualified U/L and raised LOQ to 0.2ug/l from 0.19ug/l.
Were target analytes in the field blank less than MDL?		•		All equipment blank detections qualified as non-detect based on method blank detections noted above.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		ICV outlier issues noted in case narrative were not addressed as part of this stage 2A validation review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data rejected during the verification process?		•		

Review Questions

Method: SW6010 (Trace Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch NI11ICS1 detections below LOQ for aluminum, chromium, magnesium, potassium and sodium. QC batch NI15ICS1 detections below LOQ for aluminum, arsenic, barium, calcium, chromium, magnesium, nickel, potassium and silver. SODIUM results for all samples were qualified as non-detect at the LOD and qualified with U/L flags/reason codes.
Were target analytes in the field blank less than MDL?			•	Equipment blank detections were not used to qualify soil field sample detections
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW6020 (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch NI11MW2 detections below the LOQ for aluminum, chromium, iron, lead, magnesium and above the LOQ for copper, manganese. Client sample -009 results for aluminum, copper, lead, magnesium and manganese were qualified as non-detect with U/L flags/reason codes.
Were target analytes in the field blank less than MDL?		•		See above for detections qualified.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7196 (Chromium, Hexavalent (Colorimetric))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			H1 flags removed for soil samples - samples analyzed in 6 days versus project criteria of 28 days.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG detection below the LOQ resulted in qualification of sample -009 with U/L flag/reason codes.
Were target analytes in the field blank less than MDL?		•		See above for EB detection (0.0028J) that was qualified non-detect based on method blank detection.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		Only one MS reported. QAPP requires pre-digestion spikes for both soluble and insoluble. Method requirements not met.
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7470 (Mercury in Liquid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch NI14HGW1 detection below the LOQ resulted in qualification of client sample -009 as non-detect at LOD with U/L flag/reason code.
Were target analytes in the field blank less than MDL?		•		See above for EB detection qualified as non-detect due to method blank detection.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only.
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7471 (Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?			•	Water equipment blank not used to qualify soil field sample detections.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	SN7636
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Katahdin Analytical Services, Westbrook, ME
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	December 29, 2020- Resubmitted Januay 26, 2021 based on DoD Chemist review. Resubmitted February 11, 2021 to add narration on non-qual for 6010 S2AVEM 14/15.

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	BNASIM	SW6010	SW6020	SW7196	SW7470	SW7471
NHFLA-BH46-A-SEP2020	SN7636-1	Solid	Field Sample/N	X	X		X		X
NHFLA-BH46-B-SEP2020	SN7636-2	Solid	Field Sample/N	X	X		X		X
NHFLA-DUP6-SEP2020	SN7636-3	Solid	Field Duplicate/FD	X	X		X		X
NHFLA-EB14-SEP2020	SN7636-6	Water	Equipment Blank/EB	X		X	X	X	

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Katahdin Analytical Services, Westbrook, ME and were reported under sample delivery group (SDG) SN7636. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Extracted Internal Standard
- Field Duplicate RPD
- Lab Blank
- LCS Recovery
- MS Recovery
- MS RPD
- Prep Hold Time
- Surrogate
- Test Hold Time

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 35 results (21.34%) out of the 164 results (sample and field QC samples) reported are qualified based on review and 3 results (1.83%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Trip blank not reported.

Analytical Method	Data Reviewer Comment
BNASIM	No additional comments; see Checklist for detail.
SW6010	No additional comments; see Checklist for detail.
SW6020	No additional comments; see Checklist for detail.
SW7196	No additional comments; see Checklist for detail.
SW7470	No additional comments; see Checklist for detail.
SW7471	No additional comments; see Checklist for detail.

Jim Tomalia

February 11, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method BNASIM, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB14-SEP2020 (EB)/ SN7636-6	Benzo (g,h,i)perylene	0.1300	< 0.061	< 0.19	ug/l	U/None	V	
NHFLA-EB14-SEP2020 (EB)/ SN7636-6	Indeno(1,2,3-c,d)pyrene	0.2000	< 0.049	< 0.19	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method BNASIM, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG286127-1 (LB)/ WG286127-1	Benzo(a)pyrene	0.06700	< 0.066	< 0.2	ug/l	U/None	L	
WG286127-1 (LB)/ WG286127-1	Benzo (g,h,i)perylene	0.1200	< 0.065	< 0.2	ug/l	U/None	L	
WG286127-1 (LB)/ WG286127-1	Indeno(1,2,3-c,d)pyrene	0.2100	< 0.052	< 0.2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB14-SEP2020	EB	Benzo(g,h,i)perylene	0.190	0.130 JB	0.190 U		ug/l	L
NHFLA-EB14-SEP2020	EB	Indeno(1,2,3-c,d)pyrene	0.200	0.200 B	0.200 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method BNASIM, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS4-SEP2020 (MS)/ WG286962-3	Indeno(1,2,3-c,d)pyrene	40.04	49 - 130	10 - 130	percent	J/UJ	M	
NHFLA-MS4-SEP2020 (MS)/ WG286962-3	Chrysene	55.50	57 - 118	10 - 118	percent	J/UJ	M	
NHFLA-MSD4-SEP2020 (SD)/ WG286962-4	Indeno(1,2,3-c,d)pyrene	40.36	49 - 130	10 - 130	percent	J/UJ	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-BH46-A-SEP2020	N	Chrysene	24.0	12.0 JM	12.0 J	-	ug/kg	M/TR
NHFLA-BH46-A-SEP2020	N	Indeno(1,2,3-c,d)pyrene	24.0	9.20 JMM	9.20 J	-	ug/kg	M/TR
NHFLA-DUP6-SEP2020	FD	Chrysene	25.0	19.0 J	19.0 J	-	ug/kg	M/TR
NHFLA-DUP6-SEP2020	FD	Indeno(1,2,3-c,d)pyrene	25.0	9.80 J	9.80 J	-	ug/kg	M/TR

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6010, Field Duplicate RPD

Field duplicate analyses are performed in order to assess sample collection/laboratory precision for each sample matrix. Summary forms were evaluated and compared to electronic data deliverables. Field duplicate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-BH46-A-SEP2020 (N)/ SN7636-3	Cobalt	71.51	< 50	< 50	rpd	J/UJ	D3	
NHFLA-BH46-A-SEP2020 (N)/ SN7636-3	Manganese	93.05	< 50	< 50	rpd	J/UJ	D3	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Field Duplicate RPD for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-BH46-A-SEP2020	N	Cobalt	1.20	9.56	9.56 J		mg/kg	D3
NHFLA-BH46-A-SEP2020	N	Manganese	0.600	327 NA	327 J		mg/kg	D3
NHFLA-DUP6-SEP2020	FD	Cobalt	2.60	20.2	20.2 J		mg/kg	D3
NHFLA-DUP6-SEP2020	FD	Manganese	1.30	896	896 J		mg/kg	D3

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6010, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBSNI15ICS1 (LB)/ PBSNI15ICS1	Barium	0.03800	< 0.025	< 0.5	mg/kg	U/None	L	
PBSNI15ICS1 (LB)/ PBSNI15ICS1	Chromium	0.06700	< 0.026	< 1	mg/kg	U/None	L	
PBSNI15ICS1 (LB)/ PBSNI15ICS1	Nickel	0.06700	< 0.044	< 1	mg/kg	U/None	L	
PBSNI15ICS1 (LB)/ PBSNI15ICS1	Arsenic	0.1300	< 0.068	< 0.8	mg/kg	U/None	L	
PBSNI15ICS1 (LB)/ PBSNI15ICS1	Magnesium	1.700	< 0.68	< 10	mg/kg	U/None	L	
PBSNI15ICS1 (LB)/ PBSNI15ICS1	Aluminum	4.800	< 0.71	< 30	mg/kg	U/None	L	
PBSNI15ICS1 (LB)/ PBSNI15ICS1	Calcium	4.800	< 1.8	< 10	mg/kg	U/None	L	
PBSNI15ICS1 (LB)/ PBSNI15ICS1	Sodium	5.000	< 1.5	< 100	mg/kg	U/None	L	
PBSNI15ICS1 (LB)/ PBSNI15ICS1	Potassium	8.500	< 2.9	< 100	mg/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-BH46-A-SEP2020	N	Sodium	120	89.1 J	120 U		mg/kg	L
NHFLA-DUP6-SEP2020	FD	Sodium	130	94.6 J	130 U		mg/kg	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6010, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS4-SEP2020 (MS)/ SN7636-001S	Iron	-1500	81 - 118	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-MS4-SEP2020 (MS)/ SN7636-001S	Lead	112.3	81 - 112	30 - 125	percent	J/None	M	
NHFLA-MS4-SEP2020 (MS)/ SN7636-001S	Calcium	242.6	81 - 116	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-MS4-SEP2020 (MS)/ SN7636-001S	Antimony	29.18	79 - 114	30 - 125	percent	J/X	M	
NHFLA-MS4-SEP2020 (MS)/ SN7636-001S	Magnesium	63.83	78 - 115	30 - 125	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MS4-SEP2020 (MS)/ SN7636-001S	Manganese	63.83	84 - 114	30 - 125	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MS4-SEP2020 (MS)/ SN7636-001S	Nickel	74.47	83 - 113	30 - 125	percent	J/UJ	M	
NHFLA-MS4-SEP2020 (MS)/ SN7636-001S	Copper	77.38	81 - 117	30 - 125	percent	J/UJ	M	
NHFLA-MS4-SEP2020 (MS)/ SN7636-001S	Zinc	81.83	82 - 113	30 - 125	percent	J/UJ	M	
NHFLA-MS4-SEP2020 (MS)/ SN7636-001S	Aluminum	875.0	74 - 119	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-MSD4-SEP2020 (SD)/ SN7636-001P	Iron	-2333	81 - 118	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-MSD4-SEP2020 (SD)/ SN7636-001P	Calcium	187.9	81 - 116	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-MSD4-SEP2020 (SD)/ SN7636-001P	Antimony	27.73	79 - 114	30 - 125	percent	J/X	M	
NHFLA-MSD4-SEP2020 (SD)/ SN7636-001P	Manganese	47.06	84 - 114	30 - 125	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MSD4-SEP2020 (SD)/ SN7636-001P	Aluminum	583.3	74 - 119	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-MSD4-SEP2020 (SD)/ SN7636-001P	Magnesium	60.50	78 - 115	30 - 125	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MSD4-SEP2020 (SD)/ SN7636-001P	Nickel	73.95	83 - 113	30 - 125	percent	J/UJ	M	
NHFLA-MSD4-SEP2020 (SD)/ SN7636-001P	Copper	75.17	81 - 117	30 - 125	percent	J/UJ	M	
NHFLA-MSD4-SEP2020 (SD)/ SN7636-001P	Zinc	75.63	82 - 113	30 - 125	percent	J/UJ	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-BH46-A-SEP2020	N	Antimony	0.970	0.600 UN	0.600 X		mg/kg	M
NHFLA-BH46-A-SEP2020	N	Copper	3.00	26.3 N	26.3 J	-	mg/kg	M

Qualified Results associated with the MS Recovery for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-BH46-A-SEP2020	N	Nickel	1.20	39.1 N	39.1 J	-	mg/kg	M
NHFLA-BH46-A-SEP2020	N	Zinc	2.40	160 N	160 J	-	mg/kg	M
NHFLA-BH46-A-SEP2020	N	Lead	0.600	20.5 N	20.5 J	+	mg/kg	M
NHFLA-DUP6-SEP2020	FD	Antimony	2.00	1.30 U	1.30 X		mg/kg	M
NHFLA-DUP6-SEP2020	FD	Copper	6.40	31.7	31.7 J	-	mg/kg	M
NHFLA-DUP6-SEP2020	FD	Nickel	2.60	43.3	43.3 J	-	mg/kg	M
NHFLA-DUP6-SEP2020	FD	Zinc	2.60	156	156 J	-	mg/kg	M
NHFLA-DUP6-SEP2020	FD	Lead	1.30	31.7	31.7 J	+	mg/kg	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB14-SEP2020 (EB)/ SN7636-6	Chromium	0.4500	< 0.22	< 5	ug/l	U/None	V	
NHFLA-EB14-SEP2020 (EB)/ SN7636-6	Vanadium	0.8400	< 0.5	< 5	ug/l	U/None	V	
NHFLA-EB14-SEP2020 (EB)/ SN7636-6	Magnesium	22.00	< 8	< 100	ug/l	U/None	V	
NHFLA-EB14-SEP2020 (EB)/ SN7636-6	Calcium	26.00	< 21	< 100	ug/l	U/None	V	
NHFLA-EB14-SEP2020 (EB)/ SN7636-6	Iron	28.00	< 13	< 100	ug/l	U/None	V	
NHFLA-EB14-SEP2020 (EB)/ SN7636-6	Potassium	33.00	< 31	< 1000	ug/l	U/None	V	
NHFLA-EB14-SEP2020 (EB)/ SN7636-6	Aluminum	96.70	< 4.4	< 100	ug/l	U/None	V	
NHFLA-EB14-SEP2020 (EB)/ SN7636-6	Antimony	0.06300	< 0.055	< 1	ug/l	U/None	V	
NHFLA-EB14-SEP2020 (EB)/ SN7636-6	Copper	0.5800	< 0.19	< 3	ug/l	U/None	V	
NHFLA-EB14-SEP2020 (EB)/ SN7636-6	Sodium	261.0	< 19	< 1000	ug/l	U/None	V	
NHFLA-EB14-SEP2020 (EB)/ SN7636-6	Zinc	4.400	< 3.9	< 10	ug/l	U/None	V	
NHFLA-EB14-SEP2020 (EB)/ SN7636-6	Manganese	0.4700	< 0.35	< 2	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Cadmium	0.06900	< 0.03	< 1	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Beryllium	0.1100	< 0.034	< 1	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Antimony	0.1400	< 0.054	< 1	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Lead	0.1400	< 0.074	< 1	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Thallium	0.2000	< 0.061	< 1	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Cobalt	0.2100	< 0.061	< 1	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Selenium	0.2500	< 0.19	< 5	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Chromium	0.5500	< 0.22	< 5	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Vanadium	0.5800	< 0.51	< 5	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Nickel	0.6200	< 0.15	< 2	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Barium	1.600	< 0.27	< 2	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Magnesium	19.00	< 7.8	< 100	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Aluminum	26.00	< 4.4	< 100	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Iron	56.00	< 13	< 100	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Sodium	84.00	< 19	< 1000	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Zinc	19.00	< 3.9	< 10	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Copper	4.130	< 0.18	< 3	ug/l	U/None	L	
PBWNJ02IMW2 (LB)/ PBWNJ02IMW2	Manganese	0.5600	< 0.35	< 2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB14-SEP2020	EB	Aluminum	100	96.7 J	100 U		ug/l	L
NHFLA-EB14-SEP2020	EB	Antimony	1.00	0.0630 J	0.500 U		ug/l	L
NHFLA-EB14-SEP2020	EB	Chromium	5.00	0.450 J	4.00 U		ug/l	L
NHFLA-EB14-SEP2020	EB	Copper	3.00	0.580 JB	2.00 U		ug/l	L
NHFLA-EB14-SEP2020	EB	Iron	100	28.0 J	60.0 U		ug/l	L

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB14-SEP2020	EB	Magnesium	100	22.0 J	80.0 U		ug/l	L
NHFLA-EB14-SEP2020	EB	Sodium	1000	261 J	400 U		ug/l	L
NHFLA-EB14-SEP2020	EB	Vanadium	5.00	0.840 J	4.00 U		ug/l	L
NHFLA-EB14-SEP2020	EB	Zinc	10.0	4.40 JB	8.00 U		ug/l	L
NHFLA-EB14-SEP2020	EB	Manganese	2.00	0.470 J	1.00 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB14-SEP2020 (EB)/ SN7636-6	Chromium, Hexavalent	0.002200	< 0.00076	< 0.025	mg/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7196, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS4-SEP2020 (MS)/ WG286246-3	Chromium, Hexavalent	75.99	84 - 110	30 - 125	percent	J/UJ	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-BH46-A-SEP2020	N	Chromium, Hexavalent	1.30	0.810 U	0.810 X		mg/kg	M
NHFLA-DUP6-SEP2020	FD	Chromium, Hexavalent	0.620	0.720	0.720 J	-	mg/kg	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-BH46-A-SEP2020 (N)/ SN7636-1		5.020	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-BH46-B-SEP2020 (N)/ SN7636-2		5.010	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-DUP6-SEP2020 (FD)/ SN7636-3		5.020	< 1	< 2	days	J/X	H1	Test Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7470, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB14-SEP2020 (EB)/ SN7636-6	Mercury	0.01400	< 0.013	< 0.2	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7470, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNI14HGW1 (LB)/ PBWNI14HGW1	Mercury	0.07000	< 0.013	< 0.2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW7470

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB14-SEP2020	EB	Mercury	0.200	0.0140 J	0.100 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		**NHFLA-BH46**		
	Field sample ID		**NHFLA-BH46-**	**NHFLA-BH46-**	**NHFLA-MS4-**
	Lab Sample ID		SN7636-1	SN7636-2	WG286246-3
	Sample Type		Parent	Parent	MS
	Sample Date		9/10/20	9/10/20	9/10/20
	Analysis Information		2.5X	1.2X	25X
SN7636					
Chromium, Hexavalent (Colorimetric) (SW7196/SW3060)	**Recovery Limit**	**RPD Limit**			**MS Percent Recovery**
Chromium, Hexavalent (mg/kg)	84-110	20	1.30 X	0.250 J	76.0

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-BH46				
	Field sample ID		NHFLA-BH46-	NHFLA-BH46-	NHFLA-MS4-	NHFLA-MSD4-SEP2020	
	Lab Sample ID		SN7636-1	SN7636-2	WG286962-3	WG286962-4	
	Sample Type		Parent	Parent	MS	MSD	
	Sample Date		9/10/20	9/10/20	9/10/20	9/10/20	
	Analysis Information		1X	1X	1X	1X	
SN7636							
GC/MS-SIM Analysis by SW8270 (BNASIM/SW3550)	**Recovery Limit**	**RPD Limit**			**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**
2-Methylnaphthalene (µg/kg)	39-114	20	24.0 U	22.0 U	54.4	60.9	7.69
Acenaphthene (µg/kg)	44-111	20	24.0 U	22.0 U	59.8	63.1	1.80
Acenaphthylene (µg/kg)	39-116	20	24.0 U	22.0 U	52.2	55.2	2.06
Anthracene (µg/kg)	50-114	20	24.0 U	22.0 U	54.4	55.2	2.02
Benzo(a)anthracene (µg/kg)	54-122	20	7.60 J	22.0 U	67.9	70.3	0.00
Benzo(a)pyrene (µg/kg)	50-125	20	10.0 J	22.0 U	56.6	60.9	3.17
Benzo(b)fluoranthene (µg/kg)	53-128	20	23.0 J	22.0 U	70.7	80.0	6.59
Benzo(g,h,i)perylene (µg/kg)	49-127	20	11.0 J	22.0 U	54.4	56.4	0.00
Benzo(k)fluoranthene (µg/kg)	56-123	20	6.30 J	22.0 U	56.3	61.7	5.04
Chrysene (µg/kg)	57-118	20	12.0 J	2.10 J	55.5	59.8	3.13
Dibenz(a,h)anthracene (µg/kg)	50-129	20	2.40 J	22.0 U	62.7	63.8	1.68
Fluoranthene (µg/kg)	55-119	20	18.0 J	22.0 U	70.7	77.8	4.71
Fluorene (µg/kg)	47-114	20	24.0 U	22.0 U	65.3	67.6	0.00
Indeno(1,2,3-c,d)pyrene (µg/kg)	49-130	20	9.20 J	22.0 U	40.0	40.4	2.20
Naphthalene (µg/kg)	38-111	20	24.0 U	22.0 U	58.8	65.4	7.14
Phenanthrene (µg/kg)	49-113	20	7.50 J	22.0 U	73.4	79.5	3.92

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-BH46				
	Field sample ID		NHFLA-BH46-	NHFLA-BH46-	NHFLA-MS4-	NHFLA-MSD4-SEP2020	
	Lab Sample ID		SN7636-1	SN7636-2	WG286962-3	WG286962-4	
	Sample Type		Parent	Parent	MS	MSD	
	Sample Date		9/10/20	9/10/20	9/10/20	9/10/20	
	Analysis Information		1X	1X	1X	1X	
GC/MS-SIM Analysis by SW8270 (BNASIM/SW3550)	**Recovery Limit**	**RPD Limit**			**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**
Pyrene (µg/kg)	55-117	20	15.0 J	22.0 U	67.5	71.0	1.29

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		**NHFLA-BH46**				
	Field sample ID		**NHFLA-BH46-**	**NHFLA-BH46-**	**NHFLA-MS4-**	**NHFLA-MSD4-SEP2020**	
	Lab Sample ID		SN7636-1	SN7636-2	SN7636-001S	SN7636-001P	
	Sample Type		Parent	Parent	MS	MSD	
	Sample Date		9/10/20	9/10/20	9/10/20	9/10/20	
	Analysis Information		1X	1X	1X	1X	
SN7636							
Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique) (SW7471/METHOD)	**Recovery Limit**	**RPD Limit**			**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**
Mercury (mg/kg)	80-124	20	**0.0872**	0.0330 J	91.3	82.8	6.67

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-BH46					
	Field sample ID		NHFLA-BH46-	NHFLA-BH46-B-SEP2020		NHFLA-MS4-	NHFLA-MSD4-SEP2020	
	Lab Sample ID		SN7636-1	SN7636-2	SN7636-2	SN7636-001S	SN7636-001P	
	Sample Type		Parent	Parent	Parent	MS	MSD	
	Sample Date		9/10/20	9/10/20	9/10/20	9/10/20	9/10/20	
	Analysis Information		1X	1X	2X	1X	1X	
SN7636								
Trace Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry (SW6010/SW3050)	**Recovery Limit**	**RPD Limit**				**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**
Aluminum (mg/kg)	74-119	20	**18200**	**14600**	-	148	130	3.51
Antimony (mg/kg)	79-114	20	0.970 X	-	1.60 U	29.2	27.7	7.58
Arsenic (mg/kg)	82-111	20	**11.4**	-	**6.40**	96.7	88.2	5.76
Barium (mg/kg)	83-113	20	**111**	**72.8**	-	94.7	92.9	2.97
Beryllium (mg/kg)	83-113	20	**0.929**	**0.712**	-	95.3	93.3	4.08
Cadmium (mg/kg)	82-113	20	**0.668**	-	0.110 J	84.7	83.0	4.24
Calcium (mg/kg)	81-116	20	**3380**	**49900**	-	243	188	4.47
Chromium (mg/kg)	85-113	20	**21.8**	-	**20.5**	97.1	93.7	3.13
Cobalt (mg/kg)	85-112	20	**9.56 J**	-	**9.42**	88.6	86.6	4.17
Copper (mg/kg)	81-117	20	**26.3 J**	-	**27.1**	76.8	74.5	2.43
Iron (mg/kg)	81-118	20	**28200**	-	**26300**	-1500	-2330	3.86
Lead (mg/kg)	81-112	20	**20.5 J**	-	**11.8**	107	91.6	8.54
Magnesium (mg/kg)	78-115	20	**3040**	-	**9080**	104	104	0.878
Manganese (mg/kg)	84-114	20	**327 J**	-	**379**	-143	-320	3.05
Nickel (mg/kg)	83-113	20	**39.1 J**	-	**36.5**	74.5	73.9	1.79
Potassium (mg/kg)	81-116	20	**2140**	**2160**	-	101	95.7	2.71

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-BH46					
	Field sample ID		NHFLA-BH46-	NHFLA-BH46-B-SEP2020		NHFLA-MS4-	NHFLA-MSD4-SEP2020	
	Lab Sample ID		SN7636-1	SN7636-2	SN7636-2	SN7636-001S	SN7636-001P	
	Sample Type		Parent	Parent	Parent	MS	MSD	
	Sample Date		9/10/20	9/10/20	9/10/20	9/10/20	9/10/20	
	Analysis Information		1X	1X	2X	1X	1X	
Trace Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry (SW6010/SW3050)	**Recovery Limit**	**RPD Limit**				**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**
Selenium (mg/kg)	78-111	20	**2.00**	-	0.790 J	90.2	84.9	7.17
Silver (mg/kg)	82-112	20	0.517 J	-	2.00 U	93.5	93.7	2.27
Sodium (mg/kg)	83-118	20	120 U	**130**	-	95.2	94.1	3.27
Thallium (mg/kg)	83-111	20	1.32 J	-	3.00 U	84.3	83.0	3.51
Vanadium (mg/kg)	82-114	20	**45.0**	-	**26.4**	94.9	89.7	4.57
Zinc (mg/kg)	82-113	20	**160 J**	**65.8**	-	81.8	75.6	2.41

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7636

Location	Analysis
NHFLA-BH46	BNASIM

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	2-Methylnaphthalene	ND	ND	24.0	NA	50	NA	OK
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Acenaphthene	ND	ND	24.0	NA	50	NA	OK
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Acenaphthylene	ND	ND	24.0	NA	50	NA	OK
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Anthracene	ND	ND	24.0	NA	50	NA	OK
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Benzo(a)anthracene	7.60	9.80	24.0	25.3	50	NA	OK
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Benzo(a)pyrene	10.0	13.0	24.0	26.1	50	NA	OK
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Benzo(b)fluoranthene	23.0	26.0	24.0	12.2	50	NA	OK
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Benzo(g,h,i)perylene	11.0	12.0	24.0	8.70	50	NA	OK
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Benzo(k)fluoranthene	6.30	7.00	24.0	10.5	50	NA	OK
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Chrysene	12.0	19.0	24.0	45.2	50	NA	OK
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Dibenz(a,h)anthracene	2.40	2.40	24.0	0.00	50	NA	OK
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Fluoranthene	18.0	24.0	24.0	28.6	50	NA	OK
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Fluorene	ND	ND	24.0	NA	50	NA	OK
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Indeno(1,2,3-c,d)pyrene	9.20	9.80	24.0	6.32	50	NA	OK
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Naphthalene	ND	ND	24.0	NA	50	NA	OK

FD = Field Duplicate
RL = Reporting Limit
RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7636

Location	Analysis
NHFLA-BH46	BNASIM

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Phenanthrene	7.50	8.90	24.0	17.1	50	NA	OK
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Pyrene	15.0	20.0	24.0	28.6	50	NA	OK

Location	Analysis
NHFLA-BH46	SW6010

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Aluminum	18200	15900	36.0	13.5	50	OK	NA
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Antimony	ND	ND	0.970	NA	50	NA	OK
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Arsenic	11.4	18.0	0.970	44.9	50	OK	NA
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Barium	111	100	0.600	10.4	50	OK	NA
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Beryllium	0.929	1.01	0.600	8.35	50	NA	OK
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Cadmium	0.668	1.02	0.600	41.7	50	NA	OK
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Calcium	3380	3480	12.0	2.92	50	OK	NA
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Chromium	21.8	20.4	1.20	6.64	50	OK	NA
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Cobalt	9.56	20.2	1.20	71.5	50	Out	NA
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Copper	26.3	31.7	3.00	18.6	50	NA	OK

FD = Field Duplicate
RL = Reporting Limit
RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7636

Location	Analysis
NHFLA-BH46	SW6010

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Iron	28200	35700	12.0	23.5	50	OK	NA
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Lead	20.5	31.7	0.600	42.9	50	OK	NA
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Magnesium	3040	2790	12.0	8.58	50	OK	NA
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Manganese	327	896	0.600	93.0	50	Out	NA
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Nickel	39.1	43.3	1.20	10.2	50	OK	NA
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Potassium	2140	1960	120	8.78	50	OK	NA
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Selenium	2.00	2.10	1.20	4.88	50	NA	OK
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Silver	0.517	0.360	1.20	35.8	50	NA	OK
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Sodium	ND	ND	120	NA	50	NA	OK
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Thallium	1.32	0.460	1.80	96.6	50	NA	OK
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Vanadium	45.0	45.4	1.20	0.885	50	OK	NA
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Zinc	160	156	2.40	2.53	50	OK	NA

FD = Field Duplicate
RL = Reporting Limit
RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7636

Location	Analysis
NHFLA-BH46	SW7196

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Chromium, Hexavalent	ND	0.720	1.30	NA	50	NA	OK

Location	Analysis
NHFLA-BH46	SW7471

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-BH46-A-SEP2020 / NHFLA-DUP6-SEP2020	SN7636-1 / SN7636-3	Mercury	0.0872	0.0836	0.0430	4.22	50	NA	OK

FD = Field Duplicate
RL = Reporting Limit
RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Table of All Qualified Results

Test Method: BNASIM	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB14-SEP2020	EB	Benzo(g,h,i)perylene	0.190	0.130 JB	0.190 U		ug/l	L
NHFLA-EB14-SEP2020	EB	Indeno(1,2,3-c,d)pyrene	0.200	0.200 B	0.200 U		ug/l	L

Test Method: BNASIM	Extraction Method: SW3550							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-BH46-A-SEP2020	N	Chrysene	24.0	12.0 JM	12.0 J	-	ug/kg	M/TR
NHFLA-BH46-A-SEP2020	N	Indeno(1,2,3-c,d)pyrene	24.0	9.20 JMM	9.20 J	-	ug/kg	M/TR
NHFLA-DUP6-SEP2020	FD	Chrysene	25.0	19.0 J	19.0 J	-	ug/kg	M/TR
NHFLA-DUP6-SEP2020	FD	Indeno(1,2,3-c,d)pyrene	25.0	9.80 J	9.80 J	-	ug/kg	M/TR

Test Method: SW6010	Extraction Method: SW3050							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-BH46-A-SEP2020	N	Sodium	120	89.1 J	120 U		mg/kg	L
NHFLA-BH46-A-SEP2020	N	Antimony	0.970	0.600 UN	0.600 X		mg/kg	M
NHFLA-BH46-A-SEP2020	N	Copper	3.00	26.3 N	26.3 J	-	mg/kg	M
NHFLA-BH46-A-SEP2020	N	Nickel	1.20	39.1 N	39.1 J	-	mg/kg	M
NHFLA-BH46-A-SEP2020	N	Zinc	2.40	160 N	160 J	-	mg/kg	M
NHFLA-BH46-A-SEP2020	N	Lead	0.600	20.5 N	20.5 J	+	mg/kg	M
NHFLA-BH46-A-SEP2020	N	Cobalt	1.20	9.56	9.56 J		mg/kg	D3
NHFLA-BH46-A-SEP2020	N	Manganese	0.600	327 NA	327 J		mg/kg	D3
NHFLA-DUP6-SEP2020	FD	Sodium	130	94.6 J	130 U		mg/kg	L
NHFLA-DUP6-SEP2020	FD	Antimony	2.00	1.30 U	1.30 X		mg/kg	M
NHFLA-DUP6-SEP2020	FD	Copper	6.40	31.7	31.7 J	-	mg/kg	M
NHFLA-DUP6-SEP2020	FD	Nickel	2.60	43.3	43.3 J	-	mg/kg	M
NHFLA-DUP6-SEP2020	FD	Zinc	2.60	156	156 J	-	mg/kg	M
NHFLA-DUP6-SEP2020	FD	Lead	1.30	31.7	31.7 J	+	mg/kg	M
NHFLA-DUP6-SEP2020	FD	Cobalt	2.60	20.2	20.2 J		mg/kg	D3
NHFLA-DUP6-SEP2020	FD	Manganese	1.30	896	896 J		mg/kg	D3

Test Method: SW6020	Extraction Method: SW3010							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB14-SEP2020	EB	Aluminum	100	96.7 J	100 U		ug/l	L
NHFLA-EB14-SEP2020	EB	Antimony	1.00	0.0630 J	0.500 U		ug/l	L
NHFLA-EB14-SEP2020	EB	Chromium	5.00	0.450 J	4.00 U		ug/l	L
NHFLA-EB14-SEP2020	EB	Copper	3.00	0.580 JB	2.00 U		ug/l	L
NHFLA-EB14-SEP2020	EB	Iron	100	28.0 J	60.0 U		ug/l	L
NHFLA-EB14-SEP2020	EB	Magnesium	100	22.0 J	80.0 U		ug/l	L
NHFLA-EB14-SEP2020	EB	Sodium	1000	261 J	400 U		ug/l	L
NHFLA-EB14-SEP2020	EB	Vanadium	5.00	0.840 J	4.00 U		ug/l	L
NHFLA-EB14-SEP2020	EB	Zinc	10.0	4.40 JB	8.00 U		ug/l	L
NHFLA-EB14-SEP2020	EB	Manganese	2.00	0.470 J	1.00 U		ug/l	L

Table of All Qualified Results

Test Method: SW7196	Extraction Method: SW3060							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-BH46-A-SEP2020	N	Chromium, Hexavalent	1.30	0.810 U	0.810 X		mg/kg	M
NHFLA-DUP6-SEP2020	FD	Chromium, Hexavalent	0.620	0.720	0.720 J	-	mg/kg	M

Test Method: SW7470	Extraction Method: METHOD							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB14-SEP2020	EB	Mercury	0.200	0.0140 J	0.100 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB14-SEP2020	EB	Indeno(1,2,3-c,d)pyrene	0.200	0.200 B	0.200 J	0.200 U	L

Modified Qualifiers for test method SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-BH46-B-SEP2020	N	Cobalt	2.00	9.42	9.42 J	9.42	
NHFLA-BH46-B-SEP2020	N	Manganese	1.00	379	379 J	379	

Modified Qualifiers for test method SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-BH46-A-SEP2020	N	Chromium, Hexavalent	1.30	0.810 U	0.810 X	0.810 X	M
NHFLA-BH46-B-SEP2020	N	Chromium, Hexavalent	0.560	0.250 J	0.250 J	0.250 J	TR
NHFLA-DUP6-SEP2020	FD	Chromium, Hexavalent	0.620	0.720	0.720 J	0.720 J	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Automated Data Review Detail Report for SN7636
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Rejected Results

Test Method: SW6010	Extraction Method: SW3050	Leach Method: NONE							
FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-BH46-A-SEP2020	SN7636-1	S	N	Antimony	0.970	0.600 UN	0.600 X	mg/kg	M
NHFLA-DUP6-SEP2020	SN7636-3	S	FD	Antimony	2.00	1.30 U	1.30 X	mg/kg	M

Test Method: SW7196	Extraction Method: SW3060	Leach Method: NONE							
FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-BH46-A-SEP2020	SN7636-1	S	N	Chromium, Hexavalent	1.30	0.810 U	0.810 X	mg/kg	M

Automated Data Review Detail Report for SN7636
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
SW6010/SW3050/NONE	3	20
SW7196/SW3060/NONE	3	3
SW7471/METHOD/NONE	3	3

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-BH46-A-SEP2020	N	1	Antimony	0.600 X	0.0850	0.600	0.970	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH46-A-SEP2020	N	1	Arsenic	11.4	0.0820	0.600	0.970	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH46-A-SEP2020	N	1	Cadmium	0.668	0.00960	0.360	0.600	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH46-A-SEP2020	N	1	Cobalt	9.56 J	0.0350	0.480	1.20	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH46-A-SEP2020	N	1	Selenium	2.00	0.210	0.850	1.20	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH46-A-SEP2020	N	1	Thallium	1.32 J	0.100	0.600	1.80	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH46-B-SEP2020	N	2	Antimony	1.00 U	0.140	1.00	1.60	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH46-B-SEP2020	N	2	Arsenic	6.40	0.140	1.00	1.60	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH46-B-SEP2020	N	2	Cadmium	0.110 J	0.0160	0.610	1.00	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH46-B-SEP2020	N	2	Cobalt	9.42	0.0590	0.810	2.00	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH46-B-SEP2020	N	2	Selenium	0.790 J	0.340	1.40	2.00	0.173333	mg/Kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-BH46-B-SEP2020	N	2	Silver	0.810 U	0.0550	0.810	2.00	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH46-B-SEP2020	N	2	Thallium	1.00 U	0.170	1.00	3.00	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP6-SEP2020	FD	2	Antimony	1.30 X	0.180	1.30	2.00	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP6-SEP2020	FD	2	Arsenic	18.0	0.170	1.30	2.00	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP6-SEP2020	FD	2	Cadmium	1.02 J	0.0200	0.770	1.30	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP6-SEP2020	FD	2	Cobalt	20.2 J	0.0740	1.00	2.60	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP6-SEP2020	FD	2	Selenium	2.10 J	0.440	1.80	2.60	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP6-SEP2020	FD	2	Silver	0.360 J	0.0690	1.00	2.60	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP6-SEP2020	FD	2	Thallium	0.460 J	0.220	1.30	3.80	0.016666	mg/Kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7196/SW3060/NONE	NHFLA-BH46-A-SEP2020	N	2.5	Chromium, Hexavalent	0.810 X	0.400	0.810	1.30	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-BH46-B-SEP2020	N	1.2	Chromium, Hexavalent	0.250 J	0.170	0.330	0.560	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-DUP6-SEP2020	FD	1.2	Chromium, Hexavalent	0.720 J	0.190	0.370	0.620	0.4	mg/kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7471/METHOD/NONE	NHFLA-BH46-A-SEP2020	N	1	Mercury	0.0872	0.00660	0.0220	0.0430	0.033	mg/Kg
SW7471/METHOD/NONE	NHFLA-BH46-B-SEP2020	N	1	Mercury	0.0330 J	0.00540	0.0180	0.0350	0.033	mg/Kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Automated Data Review Detail Report for SN7636
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7471/METHOD/NONE	NHFLA-DUP6-SEP2020	FD	1	Mercury	0.0836	0.00630	0.0210	0.0400	0.033	mg/Kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
D3	Field Duplicate RPD
H1	Test Hold Time
L	Lab Blank
M	MS Recovery
TR	Trace Level Detect
V	Equipment Blank

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: BNASIM (GC/MS-SIM Analysis by SW8270)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG286127-1 detections below LOQ for benzo(a)pyrene, benzo(ghi)perylene and above LOQ for indeno(123cd)pyrene. Client sample -006 result for these analytes are considered non-detect at the LOD and qualified with U/L flags/reason codes. NOTE: Flags for indeno(123cd)pyrene changed from J/L to UL with LOQ raised to 0.20 from 0.19ug/l.
Were target analytes in the field blank less than MDL?		•		See above for two EB detections that were qualified as non-detect due to method blank detections. Aqueous equipment blank detections not used to qualify soil field sample results.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -001 recoveries biased low for chrysene and indeno(1,2,3-cd)pyrene. Client samples -001 and -003(field duplicate) results for these analytes qualified with J/M/TR flags/reason codes as estimated.
Was the MS/MSD RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		ICV and CCV outlier issues noted in case narrative were not addressed as part of this stage 2A validation review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data rejected during the verification process?		•		

Review Questions

Method: SW6010 (Trace Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch NI15ICS1 detections below LOQ for aluminum, arsenic, barium, calcium, chromium, magnesium, nickel, potassium, sodium. Field samples -001 and -003 sodium results qualified non-detect at LOD with U/L flag/reason codes.
Were target analytes in the field blank less than MDL?			•	See method 6020. Detections of aqueous equipment blank not used to qualify soil field sample results.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -001 recovery outliers with low bias for antimony, copper, nickel and zinc and high bias for lead - X/M flag/reason codes for antimony (recoveries less than 30%) and J/M flag/reason codes for copper, nickel, zinc, lead. Recoveries for aluminum, calcium, iron, magnesium, manganese had MS contributions that were considered not significant so were not used to qualify results based on the 4X rule. Sample -003 was field duplicate for sample -001 so these results also received the same qualifiers.
Was the MS/MSD RPD within project acceptance limits?	•			
Were the post spike recoveries within project acceptance limits?		•		PDS outliers noted in case narrative for aluminum, calcium, iron, manganese. QC batch data for PDS, serial dilutions not included in lab report. Qualification not required for these outliers based on 4X criteria.
Were the serial dilution RPD values within project acceptance limits?	•			QC batch data for PDS, serial dilutions not included in lab report but no comments in case narrative indicating SD outliers so qualifications not required.
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?		•		Cobalt and manganese were outside of project criteria for field duplicate RPD's so were qualified estimated with J/D3 flags/reason codes. NOTE: D3 flags for sample -002 were removed since this sample was neither a source sample or a field duplicate.
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	

Review Questions

Method: SW6010 (Trace Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry)				
Review Questions	Yes	No	NA	Comment
Were any data rejected during the verification process?	•			Samples -001 and -003 antimony results due to low bias MS/MSD recoveries.

Review Questions

Method: SW6020 (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch NI22IMW2 had detections above the LOQ for copper and zinc and below the LOQ for barium, manganese, aluminum, antimony, beryllium, cadmium, chromium, cobalt, iron, lead, magnesium, nickel, selenium, sodium, thallium and vanadium. Client sample -006 results were qualified as non-detect at the LOD with U/L flags/reason codes for copper, manganese, zinc, antimony, chromium, iron, magnesium, sodium and vanadium and non-detect at the LOQ for aluminum.
Were target analytes in the field blank less than MDL?		•		Sample -006 was equipment blank with detections qualified as noted above. Non qualified detections include potassium and calcium. Data was not used to qualify soil field samples.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7196 (Chromium, Hexavalent (Colorimetric))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			H1 flags removed for soil sample results.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?		•		Equipment blank had detection below LOQ.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -001 recovery was 31% which is below lower reject limit so result for -001 and -003 (field duplicate) were qualified with X/M flags.
Was the MS/MSD RPD within project acceptance limits?	•			
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?	•			Samples -001 and -003 hexavalent chromium results due to MS/MSD recovery outliers.

Review Questions

Method: SW7470 (Mercury in Liquid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch NI14HGW1 detection below the LOQ resulted in qualification of field sample -006 mercury results with U/L flag/reason codes.
Were target analytes in the field blank less than MDL?		•		See above - detection qualified as non-detect at LOD due to method blank contribution.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?	•			
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7471 (Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?			•	Equipment blank detection was not used to qualify soil field sample results.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?	•			
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	SN7689
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Katahdin Analytical Services, Westbrook, ME
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	March 01, 2021

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	BNASIM	LYDKHN	SW6010	SW6020	SW7196	SW7470	SW7471	SW8082	SW8260	SW8270	SW9045
NHFLA-DUP7-SEP2020	SN7689-2	Soil	Field Duplicate/FD	X	X	X		X		X	X	X	X	X
NHFLA-SL11A-A-SEP2020	SN7689-1	Soil	Field Sample/N	X	X	X		X		X	X	X	X	X
NHFLA-SL11B-A-SEP2020	SN7689-4	Soil	Field Sample/N	X	X	X		X		X	X	X	X	X
NHFLA-SL25-A-SEP2020	SN7689-3	Soil	Field Sample/N	X	X	X		X		X		X	X	X
NHFLA-EB15-2-SEP2020	SN7689-5	Water	Equipment Blank/EB	X			X	X	X			X	X	
NHFLA-TB17-SEP2020	SN7689-6	Water	Trip Blank/TB									X		
NHFLA-TB18-SEP2020	SN7689-7	Water	Trip Blank/TB									X		

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Katahdin Analytical Services, Westbrook, ME and were reported under sample delivery group (SDG) SN7689. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Extracted Internal Standard
- Field Duplicate RPD
- Lab Blank
- Lab Replicate RPD
- LCS Recovery
- LCS RPD
- MS Recovery
- MS RPD
- Prep Hold Time
- Surrogate
- Test Hold Time
- Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 160 results (19.02%) out of the 841 results (sample and field QC samples) reported are qualified based on review and 14 results (1.66%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Analytical Method	Data Reviewer Comment
BNASIM	No additional comments; see Checklist for detail.
LYDKHN	No additional comments; see Checklist for detail.
SW6010	No additional comments; see Checklist for detail.
SW6020	No additional comments; see Checklist for detail.
SW7196	No additional comments; see Checklist for detail.
SW7470	No additional comments; see Checklist for detail.
SW7471	No additional comments; see Checklist for detail.
SW8082	NOTE: PCB equipment blank sample results were not available in the FUDSChem data base. Required qualifications are noted in the review checklist section but could not be applied to database so do not appear in associated data tables in this report.
SW8260	No additional comments; see Checklist for detail.
SW8270	No additional comments; see Checklist for detail.
SW9045	No additional comments; see Checklist for detail.

Jim Tomalia

March 04, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method BNASIM, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG287058-2 (BS)/ WG287058-2	Chrysene	54.42	57 - 118	10 - 118	percent	J/UJ	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method BNASIM, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS5-SEP2020 (MS)/ WG287058-3	Pyrene	52.77	55 - 117	10 - 117	percent	J/UJ	M	
NHFLA-MS5-SEP2020 (MS)/ WG287058-3	Chrysene	52.77	57 - 118	10 - 118	percent	J/UJ	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP7-SEP2020	FD	Chrysene	22.0	37.0	37.0 J	-	ug/kg	M
NHFLA-DUP7-SEP2020	FD	Pyrene	22.0	43.0	43.0 J	-	ug/kg	M
NHFLA-SL11A-A-SEP2020	N	Chrysene	20.0	34.0 M	34.0 J	-	ug/kg	M
NHFLA-SL11A-A-SEP2020	N	Pyrene	20.0	54.0 M	54.0 J	-	ug/kg	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method LYDKHN, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MSD5-SEP2020 (SD)/ WG286408-5	Total Organic Carbon	136.1	75 - 125	30 - 150	percent	J/None	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for LYDKHN

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP7-SEP2020	FD	Total Organic Carbon	950	17000	17000 J		ug/g	M
NHFLA-SL11A-A-SEP2020	N	Total Organic Carbon	820	23000	23000 J		ug/g	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method LYDKHN, Prep Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of extraction found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-DUP7-SEP2020 (FD)/ SN7689-2		5.010	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-SL11A-A-SEP2020 (N)/ SN7689-1		4.970	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-SL11B-A-SEP2020 (N)/ SN7689-4		4.940	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-SL25-A-SEP2020 (N)/ SN7689-3		4.970	< 0	< 0	days	J/X	H2	Prep Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6010, Field Duplicate RPD

Field duplicate analyses are performed in order to assess sample collection/laboratory precision for each sample matrix. Summary forms were evaluated and compared to electronic data deliverables. Field duplicate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-SL11A-A-SEP2020 (N)/ SN7689-2	Copper	109.0	< 50	< 50	rpd	J/UJ	D3	
NHFLA-SL11A-A-SEP2020 (N)/ SN7689-2	Chromium	55.16	< 50	< 50	rpd	J/UJ	D3	
NHFLA-SL11A-A-SEP2020 (N)/ SN7689-2	Selenium	62.90	< 1.6	< 1.6	mg/kg	J/UJ	D3	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Field Duplicate RPD for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP7-SEP2020	FD	Chromium	1.90	17.2	17.2 J	-	mg/kg	D3/M
NHFLA-DUP7-SEP2020	FD	Copper	4.60	31.8	31.8 J		mg/kg	D3
NHFLA-DUP7-SEP2020	FD	Selenium	1.90	1.00 J	1.30 UJ		mg/kg	L/D3
NHFLA-SL11A-A-SEP2020	N	Chromium	1.60	30.3 N	30.3 J	-	mg/kg	D3/M
NHFLA-SL11A-A-SEP2020	N	Copper	3.90	108 NEA	108 J		mg/kg	D3
NHFLA-SL11A-A-SEP2020	N	Selenium	1.60	63.9 NEA	63.9 J		mg/kg	D3

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6010, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBSNI16ICS2 (LB)/ PBSNI16ICS2	Barium	0.05600	< 0.025	< 0.5	mg/kg	U/None	L	
PBSNI16ICS2 (LB)/ PBSNI16ICS2	Chromium	0.08900	< 0.026	< 1	mg/kg	U/None	L	
PBSNI16ICS2 (LB)/ PBSNI16ICS2	Selenium	0.1900	< 0.17	< 1	mg/kg	U/None	L	
PBSNI16ICS2 (LB)/ PBSNI16ICS2	Zinc	0.2300	< 0.17	< 2	mg/kg	U/None	L	
PBSNI16ICS2 (LB)/ PBSNI16ICS2	Sodium	13.00	< 1.5	< 100	mg/kg	U/None	L	
PBSNI16ICS2 (LB)/ PBSNI16ICS2	Potassium	14.00	< 2.9	< 100	mg/kg	U/None	L	
PBSNI16ICS2 (LB)/ PBSNI16ICS2	Iron	2.800	< 1.4	< 10	mg/kg	U/None	L	
PBSNI16ICS2 (LB)/ PBSNI16ICS2	Magnesium	5.700	< 0.68	< 10	mg/kg	U/None	L	
PBSNI16ICS2 (LB)/ PBSNI16ICS2	Nickel	0.1000	< 0.044	< 1	mg/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP7-SEP2020	FD	Selenium	1.90	1.00 J	1.30 UJ		mg/kg	L/D3
NHFLA-DUP7-SEP2020	FD	Sodium	190	129 J	190 U		mg/kg	L
NHFLA-SL11A-A-SEP2020	N	Sodium	160	138 J	160 U		mg/kg	L
NHFLA-SL11B-A-SEP2020	N	Selenium	1.70	1.30 J	1.70 U		mg/kg	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6010, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS5-SEP2020 (MS)/ SN7689-001S	Copper	-258.2	81 - 117	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-MS5-SEP2020 (MS)/ SN7689-001S	Selenium	-703.2	78 - 111	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-MS5-SEP2020 (MS)/ SN7689-001S	Beryllium	114.1	83 - 113	30 - 125	percent	J/None	M	
NHFLA-MS5-SEP2020 (MS)/ SN7689-001S	Antimony	14.69	79 - 114	30 - 125	percent	J/X	M	
NHFLA-MS5-SEP2020 (MS)/ SN7689-001S	Potassium	149.4	81 - 116	30 - 125	percent	J/None	M	
NHFLA-MS5-SEP2020 (MS)/ SN7689-001S	Aluminum	2813	74 - 119	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-MS5-SEP2020 (MS)/ SN7689-001S	Magnesium	282.1	78 - 115	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-MS5-SEP2020 (MS)/ SN7689-001S	Iron	3875	81 - 118	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-MS5-SEP2020 (MS)/ SN7689-001S	Chromium	50.32	85 - 113	30 - 125	percent	J/UJ	M	
NHFLA-MS5-SEP2020 (MS)/ SN7689-001S	Manganese	510.2	84 - 114	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-MS5-SEP2020 (MS)/ SN7689-001S	Lead	148.1	81 - 112	30 - 125	percent	J/None	M	
NHFLA-MS5-SEP2020 (MS)/ SN7689-001S	Calcium	4520	81 - 116	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-MSD5-SEP2020 (SD)/ SN7689-001P	Copper	-293.3	81 - 117	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-MSD5-SEP2020 (SD)/ SN7689-001P	Magnesium	-333.3	78 - 115	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-MSD5-SEP2020 (SD)/ SN7689-001P	Iron	-500.0	81 - 118	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-MSD5-SEP2020 (SD)/ SN7689-001P	Selenium	-710.5	78 - 111	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-MSD5-SEP2020 (SD)/ SN7689-001P	Antimony	10.93	79 - 114	30 - 125	percent	J/X	M	
NHFLA-MSD5-SEP2020 (SD)/ SN7689-001P	Aluminum	1250	74 - 119	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-MSD5-SEP2020 (SD)/ SN7689-001P	Chromium	23.08	85 - 113	30 - 125	percent	J/X	M	
NHFLA-MSD5-SEP2020 (SD)/ SN7689-001P	Zinc	23.14	82 - 113	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-MSD5-SEP2020 (SD)/ SN7689-001P	Manganese	311.1	84 - 114	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-MSD5-SEP2020 (SD)/ SN7689-001P	Calcium	3083	81 - 116	30 - 125	percent	J/None	M	Spike amount Insignificant

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP7-SEP2020	FD	Antimony	1.50	0.930 U	0.930 X		mg/kg	M
NHFLA-DUP7-SEP2020	FD	Chromium	1.90	17.2	17.2 J	-	mg/kg	D3/M
NHFLA-DUP7-SEP2020	FD	Beryllium	0.930	0.598 J	0.598 J	+	mg/kg	M/TR
NHFLA-DUP7-SEP2020	FD	Lead	0.460	20.9	20.9 J	+	mg/kg	M
NHFLA-DUP7-SEP2020	FD	Potassium	190	2290	2290 J	+	mg/kg	M
NHFLA-SL11A-A-SEP2020	N	Antimony	1.20	0.550 JN	0.550 X	-	mg/kg	M/TR
NHFLA-SL11A-A-SEP2020	N	Chromium	1.60	30.3 N	30.3 J	-	mg/kg	D3/M
NHFLA-SL11A-A-SEP2020	N	Beryllium	0.390	0.586 N	0.586 J	+	mg/kg	M
NHFLA-SL11A-A-SEP2020	N	Lead	0.780	23.1 N	23.1 J	+	mg/kg	M
NHFLA-SL11A-A-SEP2020	N	Potassium	160	2140 N	2140 J	+	mg/kg	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB15-2-SEP2020 (EB)/ SN7689-5	Chromium	0.2900	< 0.22	< 5	ug/l	U/None	V	
NHFLA-EB15-2-SEP2020 (EB)/ SN7689-5	Vanadium	0.7700	< 0.5	< 5	ug/l	U/None	V	
NHFLA-EB15-2-SEP2020 (EB)/ SN7689-5	Aluminum	11.00	< 4.4	< 100	ug/l	U/None	V	
NHFLA-EB15-2-SEP2020 (EB)/ SN7689-5	Iron	13.00	< 13	< 100	ug/l	U/None	V	
NHFLA-EB15-2-SEP2020 (EB)/ SN7689-5	Magnesium	16.00	< 8	< 100	ug/l	U/None	V	
NHFLA-EB15-2-SEP2020 (EB)/ SN7689-5	Potassium	35.00	< 31	< 1000	ug/l	U/None	V	
NHFLA-EB15-2-SEP2020 (EB)/ SN7689-5	Manganese	0.4000	< 0.35	< 2	ug/l	U/None	V	
NHFLA-EB15-2-SEP2020 (EB)/ SN7689-5	Copper	0.5000	< 0.19	< 3	ug/l	U/None	V	
NHFLA-EB15-2-SEP2020 (EB)/ SN7689-5	Sodium	239.0	< 19	< 1000	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Cadmium	0.06900	< 0.03	< 1	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Beryllium	0.1100	< 0.034	< 1	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Antimony	0.1400	< 0.054	< 1	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Lead	0.1400	< 0.074	< 1	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Thallium	0.2000	< 0.061	< 1	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Cobalt	0.2100	< 0.061	< 1	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Selenium	0.2500	< 0.19	< 5	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Chromium	0.5500	< 0.22	< 5	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Vanadium	0.5800	< 0.51	< 5	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Nickel	0.6200	< 0.15	< 2	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Barium	1.600	< 0.27	< 2	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Magnesium	19.00	< 7.8	< 100	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Manganese	2.800	< 0.35	< 2	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Aluminum	26.00	< 4.4	< 100	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Iron	56.00	< 13	< 100	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Sodium	84.00	< 19	< 1000	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Zinc	19.00	< 3.9	< 10	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Copper	4.130	< 0.18	< 3	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB15-2-SEP2020	EB	Aluminum	100	11.0 J	40.0 U		ug/l	L
NHFLA-EB15-2-SEP2020	EB	Chromium	5.00	0.290 J	4.00 U		ug/l	L
NHFLA-EB15-2-SEP2020	EB	Copper	3.00	0.500 JB	2.00 U		ug/l	L
NHFLA-EB15-2-SEP2020	EB	Iron	100	13.0 J	60.0 U		ug/l	L
NHFLA-EB15-2-SEP2020	EB	Magnesium	100	16.0 J	80.0 U		ug/l	L

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB15-2-SEP2020	EB	Manganese	2.00	0.400 JB	1.00 U		ug/l	L
NHFLA-EB15-2-SEP2020	EB	Sodium	1000	239 J	400 U		ug/l	L
NHFLA-EB15-2-SEP2020	EB	Vanadium	5.00	0.770 J	4.00 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB15-2-SEP2020 (EB)/ SN7689-5	Chromium, Hexavalent	0.008300	< 0.00076	< 0.025	mg/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7196, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG286201-1 (LB)/ WG286201-1	Chromium, Hexavalent	0.002700	< 0.00076	< 0.025	mg/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB15-2-SEP2020	EB	Chromium, Hexavalent	0.0250	0.00830 J	0.0125 U		mg/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS5-SEP2020 (MS)/ WG286246-5	Chromium, Hexavalent	82.54	84 - 110	30 - 125	percent	J/UJ	M	Diluted Out

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8082, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-DUP7-SEP2020 (FD)/ SN7689-2	Decachlorobiphenyl	57.60	59 - 124	10 - 124	percent	J/UJ	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8082

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP7-SEP2020	FD	PCB-1016 (Aroclor 1016)	18.0	8.90 U	8.90 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	PCB-1221 (Aroclor 1221)	18.0	8.90 U	8.90 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	PCB-1232 (Aroclor 1232)	18.0	10.0 U	10.0 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	PCB-1242 (Aroclor 1242)	18.0	8.90 U	8.90 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	PCB-1248 (Aroclor 1248)	18.0	8.90 U	8.90 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	PCB-1254 (Aroclor 1254)	18.0	8.90 U	8.90 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	PCB-1260 (Aroclor 1260)	18.0	8.90 U	8.90 UJ		ug/kg	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB15-2-SEP2020 (EB)/ SN7689-5	Toluene	0.4300	< 0.27	< 1	ug/l	U/None	V	
NHFLA-EB15-2-SEP2020 (EB)/ SN7689-5	Methylene chloride	2.100	< 1.1	< 5	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG286428-2 (LB)/ WG286428-2	Methylene chloride	1.700	< 1.1	< 5	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB15-2-SEP2020	EB	Methylene chloride	5.00	2.10 J	2.50 U		ug/l	L
NHFLA-TB17-SEP2020	TB	Methylene chloride	5.00	1.40 J	2.50 U		ug/l	L
NHFLA-TB18-SEP2020	TB	Methylene chloride	5.00	1.30 J	2.50 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS5-SEP2020 (MS)/ WG287044-6	1,2,3-Trichlorobenzene	60.42	66 - 130	10 - 130	percent	J/UJ	M	
NHFLA-MS5-SEP2020 (MS)/ WG287044-6	1,2,4-Trichlorobenzene	60.42	67 - 129	10 - 129	percent	J/UJ	M	
NHFLA-MS5-SEP2020 (MS)/ WG287044-6	1,4-Dichlorobenzene	68.75	75 - 120	10 - 120	percent	J/UJ	M	
NHFLA-MS5-SEP2020 (MS)/ WG287044-6	1,3-Dichlorobenzene	70.83	77 - 121	10 - 121	percent	J/UJ	M	
NHFLA-MS5-SEP2020 (MS)/ WG287044-6	1,2-Dichlorobenzene	70.83	78 - 121	10 - 121	percent	J/UJ	M	
NHFLA-MSD5-SEP2020 (SD)/ WG287044-7	1,2,3-Trichlorobenzene	57.69	66 - 130	10 - 130	percent	J/UJ	M	
NHFLA-MSD5-SEP2020 (SD)/ WG287044-7	1,2,4-Trichlorobenzene	59.62	67 - 129	10 - 129	percent	J/UJ	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP7-SEP2020	FD	1,2-Dichlorobenzene	5.20	2.60 U	2.60 UJ		ug/kg	M/D/I
NHFLA-DUP7-SEP2020	FD	1,3-Dichlorobenzene	5.20	2.60 U	2.60 UJ		ug/kg	M/D/I
NHFLA-DUP7-SEP2020	FD	1,4-Dichlorobenzene	5.20	2.60 U	2.60 UJ		ug/kg	M/D/I
NHFLA-DUP7-SEP2020	FD	1,2,3-Trichlorobenzene	5.20	2.60 U	2.60 UJ		ug/kg	M/I
NHFLA-DUP7-SEP2020	FD	1,2,4-Trichlorobenzene	5.20	2.60 U	2.60 UJ		ug/kg	M/I
NHFLA-SL11A-A-SEP2020	N	1,2-Dichlorobenzene	4.60	2.30 UM	2.30 UJ		ug/kg	M/D
NHFLA-SL11A-A-SEP2020	N	1,3-Dichlorobenzene	4.60	2.30 UM	2.30 UJ		ug/kg	M/D
NHFLA-SL11A-A-SEP2020	N	1,4-Dichlorobenzene	4.60	2.30 UM	2.30 UJ		ug/kg	M/D
NHFLA-SL11A-A-SEP2020	N	1,2,3-Trichlorobenzene	4.60	2.30 UMM	2.30 UJ		ug/kg	M
NHFLA-SL11A-A-SEP2020	N	1,2,4-Trichlorobenzene	4.60	2.30 UMM	2.30 UJ		ug/kg	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, MS RPD

The objective of matrix spikes/matrix spike duplicates (MS/MSD) RPD analysis is to demonstrate acceptable method precision by the laboratory at the time of analysis. MS/MSD analyses are also performed to generate data that determines the long-term precision of the analytical method on various matrices. Non-homogenous samples can impact the apparent method precision. Summary forms were evaluated and compared to electronic data deliverables. Matrix spikes/matrix spike duplicates results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	cis-1,3-Dichloropropene	20.22	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	1,1,2-Trichloroethane	20.83	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	Carbon tetrachloride	21.36	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	1,2-Dichloroethane	21.36	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	Toluene	22.22	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	Bromochloromethane	22.68	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	Bromoform	22.73	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	Trichlorofluoromethane	23.42	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	1,1,2-Trichloro-1,2,2-trifluoroethane	23.42	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	Trichloroethene (TCE)	23.53	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	Styrene	23.66	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	1,2-Dichloropropane	24.00	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	1,1,1-Trichloroethane	24.00	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	Chloroform	25.00	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	Methylcyclohexane	25.29	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	o-Xylene	25.29	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	Ethylbenzene	25.53	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	Dibromochloromethane	26.09	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	1,1-Dichloroethane	26.26	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	Cyclohexane	26.55	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	1,1-Dichloroethene	26.80	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	Chlorobenzene	27.27	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	Benzene	27.45	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	Carbon disulfide	27.52	< 20	< 20	rpd	J/UJ	D	

Quality Control Outliers for test method SW8260, MS RPD

The objective of matrix spikes/matrix spike duplicates (MS/MSD) RPD analysis is to demonstrate acceptable method precision by the laboratory at the time of analysis. MS/MSD analyses are also performed to generate data that determines the long-term precision of the analytical method on various matrices. Non-homogenous samples can impact the apparent method precision. Summary forms were evaluated and compared to electronic data deliverables. Matrix spikes/matrix spike duplicates results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	1,2-Dichlorobenzene	27.85	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	m,p-Xylene	27.98	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	1,4-Dichlorobenzene	28.57	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	trans-1,2-Dichloroethene	28.57	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	cis-1,2-Dichloroethene	29.79	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	1,3-Dichlorobenzene	30.00	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	Tetrachloroethene (PCE)	31.11	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	Isopropylbenzene (Cumene)	35.56	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	1,1,2,2-Tetrachloroethane	35.79	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS5-SEP2020 (SD)/ WG287044-7	1,2-Dibromo-3-chloropropane	35.90	< 20	< 20	rpd	J/UJ	D	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS RPD for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP7-SEP2020	FD	1,1,1-Trichloroethane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	1,1,2,2-Tetrachloroethane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	1,1,2-Trichloro-1,2,2-trifluoroethane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	1,1,2-Trichloroethane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	1,1-Dichloroethane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	1,1-Dichloroethene	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	1,2-Dibromo-3-chloropropane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	1,2-Dichlorobenzene	5.20	2.60 U	2.60 UJ		ug/kg	M/D/I
NHFLA-DUP7-SEP2020	FD	1,2-Dichloroethane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	1,2-Dichloropropane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	1,3-Dichlorobenzene	5.20	2.60 U	2.60 UJ		ug/kg	M/D/I
NHFLA-DUP7-SEP2020	FD	1,4-Dichlorobenzene	5.20	2.60 U	2.60 UJ		ug/kg	M/D/I
NHFLA-DUP7-SEP2020	FD	Benzene	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Bromochloromethane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Bromoform	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Carbon disulfide	5.20	2.60 U	2.60 UJ		ug/kg	D/I

Qualified Results associated with the MS RPD for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP7-SEP2020	FD	Carbon tetrachloride	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Chlorobenzene	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Chloroform	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	cis-1,2-Dichloroethene	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	cis-1,3-Dichloropropene	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Cyclohexane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Dibromochloromethane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Ethylbenzene	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Isopropylbenzene (Cumene)	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	m,p-Xylene	10.0	5.20 U	5.20 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Methylcyclohexane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	o-Xylene	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Styrene	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Tetrachloroethene (PCE)	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Toluene	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	trans-1,2-Dichloroethene	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Trichloroethene (TCE)	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Trichlorofluoromethane	10.0	5.20 U	5.20 UJ		ug/kg	D/I
NHFLA-SL11A-A-SEP2020	N	1,1,1-Trichloroethane	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	1,1,2,2-Tetrachloroethane	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	1,1,2-Trichloroethane	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	1,1-Dichloroethane	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	1,1-Dichloroethene	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	1,2-Dibromo-3-chloropropane	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	1,2-Dichlorobenzene	4.60	2.30 UM	2.30 UJ		ug/kg	M/D
NHFLA-SL11A-A-SEP2020	N	1,2-Dichloroethane	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	1,2-Dichloropropane	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	1,3-Dichlorobenzene	4.60	2.30 UM	2.30 UJ		ug/kg	M/D
NHFLA-SL11A-A-SEP2020	N	1,4-Dichlorobenzene	4.60	2.30 UM	2.30 UJ		ug/kg	M/D
NHFLA-SL11A-A-SEP2020	N	Benzene	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	Bromochloromethane	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	Bromoform	4.60	2.30 U	2.30 UJ		ug/kg	D

Qualified Results associated with the MS RPD for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-SL11A-A-SEP2020	N	Carbon disulfide	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	Carbon tetrachloride	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	Chlorobenzene	4.60	2.30 UM	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	Chloroform	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	cis-1,2-Dichloroethene	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	cis-1,3-Dichloropropene	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	Cyclohexane	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	Dibromochloromethane	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	Ethylbenzene	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	Isopropylbenzene (Cumene)	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	m,p-Xylene	9.30	4.60 U	4.60 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	Methylcyclohexane	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	o-Xylene	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	Styrene	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	Tetrachloroethene (PCE)	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	Toluene	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	trans-1,2-Dichloroethene	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	Trichloroethene (TCE)	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	Trichlorofluoromethane	9.30	4.60 U	4.60 UJ		ug/kg	D

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-DUP7-SEP2020 (FD)/ SN7689-2	1-Bromo-4-fluorobenzene (4-Bromofluorobenzene)	78.50	79 - 119	10 - 119	percent	J/UJ	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP7-SEP2020	FD	1,1,1-Trichloroethane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	1,1,2,2-Tetrachloroethane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	1,1,2-Trichloro-1,2,2-trifluoroethane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	1,1,2-Trichloroethane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	1,1-Dichloroethane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	1,1-Dichloroethene	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	1,2,3-Trichlorobenzene	5.20	2.60 U	2.60 UJ		ug/kg	M/I
NHFLA-DUP7-SEP2020	FD	1,2,4-Trichlorobenzene	5.20	2.60 U	2.60 UJ		ug/kg	M/I
NHFLA-DUP7-SEP2020	FD	1,2-Dibromo-3-chloropropane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	1,2-Dibromoethane (EDB)	5.20	2.60 U	2.60 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	1,2-Dichlorobenzene	5.20	2.60 U	2.60 UJ		ug/kg	M/D/I
NHFLA-DUP7-SEP2020	FD	1,2-Dichloroethane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	1,2-Dichloropropane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	1,3-Dichlorobenzene	5.20	2.60 U	2.60 UJ		ug/kg	M/D/I
NHFLA-DUP7-SEP2020	FD	1,4-Dichlorobenzene	5.20	2.60 U	2.60 UJ		ug/kg	M/D/I
NHFLA-DUP7-SEP2020	FD	2-Butanone (MEK)	26.0	13.0 U	13.0 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	2-Hexanone	26.0	13.0 U	13.0 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	4-Methyl-2-pentanone (MIBK)	26.0	13.0 U	13.0 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	Acetone	26.0	6.50 J	6.50 J	-	ug/kg	I/TR
NHFLA-DUP7-SEP2020	FD	Benzene	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Bromochloromethane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Bromodichloromethane	5.20	2.60 U	2.60 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	Bromoform	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Bromomethane	10.0	5.20 U	5.20 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	Carbon disulfide	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Carbon tetrachloride	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Chlorobenzene	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Chloroethane	10.0	5.20 U	5.20 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	Chloroform	5.20	2.60 U	2.60 UJ		ug/kg	D/I

Qualified Results associated with the Surrogate for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP7-SEP2020	FD	Chloromethane	10.0	5.20 U	5.20 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	cis-1,2-Dichloroethene	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	cis-1,3-Dichloropropene	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Cyclohexane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Dibromochloromethane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Dichlorodifluoromethane	10.0	5.20 U	5.20 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	Ethylbenzene	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Isopropylbenzene (Cumene)	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	m,p-Xylene	10.0	5.20 U	5.20 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Methyl acetate	5.20	3.10 U	3.10 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	Methyl tert-butyl ether (MTBE)	10.0	5.20 U	5.20 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	Methylcyclohexane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Methylene chloride	26.0	9.90 J	9.90 J	-	ug/kg	I/TR
NHFLA-DUP7-SEP2020	FD	o-Xylene	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Styrene	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Tetrachloroethene (PCE)	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Toluene	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	trans-1,2-Dichloroethene	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	trans-1,3-Dichloropropene	5.20	2.60 U	2.60 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	Trichloroethene (TCE)	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Trichlorofluoromethane	10.0	5.20 U	5.20 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Vinyl chloride	10.0	5.20 U	5.20 UJ		ug/kg	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-SL11A-A-SEP2020 (N)/ SN7689-1		14.13	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL
NHFLA-SL25-A-SEP2020 (N)/ SN7689-3		14.01	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Trip Blank

The purpose of trip blanks is to determine the existence and magnitude of cross-contamination problems resulting from the shipping of samples. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in trip blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-TB17-SEP2020 (TB)/ SN7689-6	Methylene chloride	1.400	< 1.1	< 5	ug/l	U/None	T	
NHFLA-TB18-SEP2020 (TB)/ SN7689-7	Methylene chloride	1.300	< 1.1	< 5	ug/l	U/None	T	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB15-2-SEP2020 (EB)/ SN7689-5	Diethyl phthalate	5.400	< 1.9	< 9.6	ug/l	U/None	V	
NHFLA-EB15-2-SEP2020 (EB)/ SN7689-5	Bis(2-ethylhexyl)phthalate	55.00	< 1.6	< 9.6	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG286216-1 (LB)/ WG286216-1	Bis(2-ethylhexyl)phthalate	39.00	< 1.7	< 10	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB15-2-SEP2020	EB	Bis(2-ethylhexyl)phthalate	9.60	55.0 BL	55.0 J	+	ug/l	L/C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG286208-1 (LB)/ WG286208-1	Bis(2-ethylhexyl)phthalate	100.0	< 98	< 330	ug/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP7-SEP2020	FD	Bis(2-ethylhexyl)phthalate	360	530	530 J		ug/kg	L/M
NHFLA-SL25-A-SEP2020	N	Bis(2-ethylhexyl)phthalate	320	370	370 J	+	ug/kg	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG286216-2 (BS)/ WG286216-2	2,4-Dinitrophenol	0.000	12 - 143	10 - 143	percent	J/X	C	
WG286216-2 (BS)/ WG286216-2	Pentachlorophenol	0.000	35 - 138	10 - 138	percent	J/X	C	
WG286216-2 (BS)/ WG286216-2	4,6-Dinitro-2-methylphenol	0.000	44 - 137	10 - 137	percent	J/X	C	
WG286216-2 (BS)/ WG286216-2	2,4-Dichlorophenol	0.000	47 - 121	10 - 121	percent	J/X	C	
WG286216-2 (BS)/ WG286216-2	2-Nitrophenol	0.000	47 - 123	10 - 123	percent	J/X	C	
WG286216-2 (BS)/ WG286216-2	2,4,6-Trichlorophenol	0.000	50 - 125	10 - 125	percent	J/X	C	
WG286216-2 (BS)/ WG286216-2	2,4,5-Trichlorophenol	0.000	53 - 123	10 - 123	percent	J/X	C	
WG286216-2 (BS)/ WG286216-2	Bis(2-ethylhexyl)phthalate	167.6	55 - 135	10 - 135	percent	J/None	C	
WG286216-2 (BS)/ WG286216-2	Phenol	2.970	10 - 78	10 - 78	percent	J/X	C	
WG286216-2 (BS)/ WG286216-2	Cresols, m- & p-	23.70	29 - 110	10 - 110	percent	J/UJ	C	
WG286216-2 (BS)/ WG286216-2	4-Chloro-3-methylphenol	25.80	52 - 119	10 - 119	percent	J/UJ	C	
WG286216-2 (BS)/ WG286216-2	2-Chlorophenol	3.400	38 - 117	10 - 117	percent	J/X	C	
WG286216-2 (BS)/ WG286216-2	Benzaldehyde	800.0	10 - 189	10 - 189	percent	J/None	C	
WG286966-2 (BS)/ WG286966-2	Benzaldehyde	1054	10 - 189	10 - 189	percent	J/None	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB15-2-SEP2020	EB	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-EB15-2-SEP2020	EB	2,4,6-Trichlorophenol	9.60	7.20 UL	7.20 X		ug/l	C
NHFLA-EB15-2-SEP2020	EB	2,4-Dichlorophenol	9.60	7.20 UL	7.20 X		ug/l	C
NHFLA-EB15-2-SEP2020	EB	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-EB15-2-SEP2020	EB	2-Chlorophenol	9.60	7.20 UL	7.20 X		ug/l	C
NHFLA-EB15-2-SEP2020	EB	2-Nitrophenol	9.60	7.20 UL	7.20 X		ug/l	C
NHFLA-EB15-2-SEP2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-EB15-2-SEP2020	EB	4-Chloro-3-methylphenol	9.60	7.20 UL	7.20 UJ		ug/l	C
NHFLA-EB15-2-SEP2020	EB	Bis(2-ethylhexyl)phthalate	9.60	55.0 BL	55.0 J	+	ug/l	L/C
NHFLA-EB15-2-SEP2020	EB	Cresols, m- & p-	9.60	7.20 UL	7.20 UJ		ug/l	C
NHFLA-EB15-2-SEP2020	EB	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB15-2-SEP2020	EB	Phenol	9.60	7.20 UL	7.20 X		ug/l	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG286208-2 (BS)/ WG286208-2	Atrazine	0.000	47 - 127	10 - 127	percent	J/X	C	
WG286208-2 (BS)/ WG286208-2	4-Chloroaniline	10.78	17 - 106	10 - 106	percent	J/UJ	C	
WG286208-2 (BS)/ WG286208-2	3,3'-Dichlorobenzidine	130.5	22 - 121	10 - 121	percent	J/None	C	
WG286208-2 (BS)/ WG286208-2	Benzaldehyde	552.7	10 - 134	10 - 134	percent	J/None	C	
WG287057-2 (BS)/ WG287057-2	Caprolactam	36.71	46 - 117	10 - 117	percent	J/UJ	C	
WG287057-2 (BS)/ WG287057-2	Benzaldehyde	565.3	10 - 134	10 - 134	percent	J/None	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP7-SEP2020	FD	4-Chloroaniline	360	270 UL	270 X		ug/kg	C/M
NHFLA-DUP7-SEP2020	FD	Atrazine	360	180 JL	180 J	-	ug/kg	C/TR
NHFLA-SL11A-A-SEP2020	N	4-Chloroaniline	320	240 ULMM	240 X		ug/kg	C/M
NHFLA-SL11A-A-SEP2020	N	Atrazine	320	120 JL	120 J	-	ug/kg	C/TR
NHFLA-SL11B-A-SEP2020	N	4-Chloroaniline	320	240 UL	240 UJ		ug/kg	C
NHFLA-SL11B-A-SEP2020	N	Atrazine	320	240 UL	240 X		ug/kg	C
NHFLA-SL25-A-SEP2020	N	4-Chloroaniline	320	240 UL	240 UJ		ug/kg	C
NHFLA-SL25-A-SEP2020	N	Atrazine	320	730 L	730 J	-	ug/kg	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS5-SEP2020 (MS)/ WG287057-3	4-Chloroaniline	0.000	17 - 106	10 - 106	percent	J/X	M	
NHFLA-MS5-SEP2020 (MS)/ WG287057-3	Bis(2-ethylhexyl)phthalate	19.05	51 - 133	10 - 133	percent	J/UJ	M	
NHFLA-MS5-SEP2020 (MS)/ WG287057-3	3-Nitroaniline	21.69	33 - 119	10 - 119	percent	J/UJ	M	
NHFLA-MS5-SEP2020 (MS)/ WG287057-3	Caprolactam	45.50	46 - 117	10 - 117	percent	J/UJ	M	
NHFLA-MS5-SEP2020 (MS)/ WG287057-3	Benzaldehyde	687.8	10 - 34	10 - 134	percent	J/None	M	
NHFLA-MSD5-SEP2020 (SD)/ WG287057-4	4-Chloroaniline	0.000	17 - 106	10 - 106	percent	J/X	M	
NHFLA-MSD5-SEP2020 (SD)/ WG287057-4	Bis(2-ethylhexyl)phthalate	18.95	51 - 133	10 - 133	percent	J/UJ	M	
NHFLA-MSD5-SEP2020 (SD)/ WG287057-4	3-Nitroaniline	20.00	33 - 119	10 - 119	percent	J/UJ	M	
NHFLA-MSD5-SEP2020 (SD)/ WG287057-4	2,4-Dimethylphenol	22.11	30 - 127	10 - 127	percent	J/UJ	M	
NHFLA-MSD5-SEP2020 (SD)/ WG287057-4	Benzaldehyde	789.5	10 - 34	10 - 134	percent	J/None	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP7-SEP2020	FD	4-Chloroaniline	360	270 UL	270 X		ug/kg	C/M
NHFLA-DUP7-SEP2020	FD	Caprolactam	360	270 U	270 UJ		ug/kg	M
NHFLA-DUP7-SEP2020	FD	2,4-Dimethylphenol	360	270 U	270 UJ		ug/kg	M/D
NHFLA-DUP7-SEP2020	FD	3-Nitroaniline	900	670 U	670 UJ		ug/kg	M
NHFLA-DUP7-SEP2020	FD	Bis(2-ethylhexyl)phthalate	360	530	530 J		ug/kg	L/M
NHFLA-SL11A-A-SEP2020	N	4-Chloroaniline	320	240 ULMM	240 X		ug/kg	C/M
NHFLA-SL11A-A-SEP2020	N	Caprolactam	320	240 UM	240 UJ		ug/kg	M
NHFLA-SL11A-A-SEP2020	N	2,4-Dimethylphenol	320	240 UM	240 UJ		ug/kg	M/D
NHFLA-SL11A-A-SEP2020	N	3-Nitroaniline	810	610 UMM	610 UJ		ug/kg	M
NHFLA-SL11A-A-SEP2020	N	Bis(2-ethylhexyl)phthalate	320	740 MM	740 J	-	ug/kg	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Table of All Qualified Results

Test Method: BNASIM	Extraction Method: SW3550							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP7-SEP2020	FD	Chrysene	22.0	37.0	37.0 J	-	ug/kg	M
NHFLA-DUP7-SEP2020	FD	Pyrene	22.0	43.0	43.0 J	-	ug/kg	M
NHFLA-SL11A-A-SEP2020	N	Chrysene	20.0	34.0 M	34.0 J	-	ug/kg	M
NHFLA-SL11A-A-SEP2020	N	Pyrene	20.0	54.0 M	54.0 J	-	ug/kg	M

Test Method: LYDKHN	Extraction Method: METHOD							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP7-SEP2020	FD	Total Organic Carbon	950	17000	17000 J		ug/g	M
NHFLA-SL11A-A-SEP2020	N	Total Organic Carbon	820	23000	23000 J		ug/g	M

Test Method: SW6010	Extraction Method: SW3050							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP7-SEP2020	FD	Selenium	1.90	1.00 J	1.30 UJ		mg/kg	L/D3
NHFLA-DUP7-SEP2020	FD	Sodium	190	129 J	190 U		mg/kg	L
NHFLA-DUP7-SEP2020	FD	Antimony	1.50	0.930 U	0.930 X		mg/kg	M
NHFLA-DUP7-SEP2020	FD	Chromium	1.90	17.2	17.2 J	-	mg/kg	D3/M
NHFLA-DUP7-SEP2020	FD	Beryllium	0.930	0.598 J	0.598 J	+	mg/kg	M/TR
NHFLA-DUP7-SEP2020	FD	Lead	0.460	20.9	20.9 J	+	mg/kg	M
NHFLA-DUP7-SEP2020	FD	Potassium	190	2290	2290 J	+	mg/kg	M
NHFLA-DUP7-SEP2020	FD	Copper	4.60	31.8	31.8 J		mg/kg	D3
NHFLA-SL11A-A-SEP2020	N	Sodium	160	138 J	160 U		mg/kg	L
NHFLA-SL11A-A-SEP2020	N	Antimony	1.20	0.550 JN	0.550 X	-	mg/kg	M/TR
NHFLA-SL11A-A-SEP2020	N	Chromium	1.60	30.3 N	30.3 J	-	mg/kg	D3/M
NHFLA-SL11A-A-SEP2020	N	Beryllium	0.390	0.586 N	0.586 J	+	mg/kg	M
NHFLA-SL11A-A-SEP2020	N	Lead	0.780	23.1 N	23.1 J	+	mg/kg	M
NHFLA-SL11A-A-SEP2020	N	Potassium	160	2140 N	2140 J	+	mg/kg	M
NHFLA-SL11A-A-SEP2020	N	Copper	3.90	108 NEA	108 J		mg/kg	D3
NHFLA-SL11A-A-SEP2020	N	Selenium	1.60	63.9 NEA	63.9 J		mg/kg	D3
NHFLA-SL11B-A-SEP2020	N	Selenium	1.70	1.30 J	1.70 U		mg/kg	L

Test Method: SW6020	Extraction Method: SW3010							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB15-2-SEP2020	EB	Aluminum	100	11.0 J	40.0 U		ug/l	L
NHFLA-EB15-2-SEP2020	EB	Chromium	5.00	0.290 J	4.00 U		ug/l	L
NHFLA-EB15-2-SEP2020	EB	Copper	3.00	0.500 JB	2.00 U		ug/l	L
NHFLA-EB15-2-SEP2020	EB	Iron	100	13.0 J	60.0 U		ug/l	L
NHFLA-EB15-2-SEP2020	EB	Magnesium	100	16.0 J	80.0 U		ug/l	L
NHFLA-EB15-2-SEP2020	EB	Manganese	2.00	0.400 JB	1.00 U		ug/l	L
NHFLA-EB15-2-SEP2020	EB	Sodium	1000	239 J	400 U		ug/l	L
NHFLA-EB15-2-SEP2020	EB	Vanadium	5.00	0.770 J	4.00 U		ug/l	L

Table of All Qualified Results

Test Method: SW7196	Extraction Method: NONE							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB15-2-SEP2020	EB	Chromium, Hexavalent	0.0250	0.00830 J	0.0125 U		mg/l	L

Test Method: SW8082	Extraction Method: SW3550							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP7-SEP2020	FD	PCB-1016 (Aroclor 1016)	18.0	8.90 U	8.90 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	PCB-1221 (Aroclor 1221)	18.0	8.90 U	8.90 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	PCB-1232 (Aroclor 1232)	18.0	10.0 U	10.0 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	PCB-1242 (Aroclor 1242)	18.0	8.90 U	8.90 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	PCB-1248 (Aroclor 1248)	18.0	8.90 U	8.90 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	PCB-1254 (Aroclor 1254)	18.0	8.90 U	8.90 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	PCB-1260 (Aroclor 1260)	18.0	8.90 U	8.90 UJ		ug/kg	I

Test Method: SW8260	Extraction Method: SW5030							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB15-2-SEP2020	EB	Methylene chloride	5.00	2.10 J	2.50 U		ug/l	L
NHFLA-TB17-SEP2020	TB	Methylene chloride	5.00	1.40 J	2.50 U		ug/l	L
NHFLA-TB18-SEP2020	TB	Methylene chloride	5.00	1.30 J	2.50 U		ug/l	L

Test Method: SW8260	Extraction Method: SW5035							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP7-SEP2020	FD	1,2-Dibromoethane (EDB)	5.20	2.60 U	2.60 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	2-Butanone (MEK)	26.0	13.0 U	13.0 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	2-Hexanone	26.0	13.0 U	13.0 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	4-Methyl-2-pentanone (MIBK)	26.0	13.0 U	13.0 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	Acetone	26.0	6.50 J	6.50 J	-	ug/kg	I/TR
NHFLA-DUP7-SEP2020	FD	Bromodichloromethane	5.20	2.60 U	2.60 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	Bromomethane	10.0	5.20 U	5.20 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	Chloroethane	10.0	5.20 U	5.20 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	Chloromethane	10.0	5.20 U	5.20 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	Dichlorodifluoromethane	10.0	5.20 U	5.20 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	Methyl acetate	5.20	3.10 U	3.10 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	Methyl tert-butyl ether (MTBE)	10.0	5.20 U	5.20 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	Methylene chloride	26.0	9.90 J	9.90 J	-	ug/kg	I/TR
NHFLA-DUP7-SEP2020	FD	trans-1,3-Dichloropropene	5.20	2.60 U	2.60 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	Vinyl chloride	10.0	5.20 U	5.20 UJ		ug/kg	I
NHFLA-DUP7-SEP2020	FD	1,1,1-Trichloroethane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	1,1,2,2-Tetrachloroethane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	1,1,2-Trichloro-1,2,2-trifluoroethane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	1,1,2-Trichloroethane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	1,1-Dichloroethane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	1,1-Dichloroethene	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	1,2,3-Trichlorobenzene	5.20	2.60 U	2.60 UJ		ug/kg	M/I

Table of All Qualified Results

Test Method: SW8260 Extraction Method: SW5035								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP7-SEP2020	FD	1,2,4-Trichlorobenzene	5.20	2.60 U	2.60 UJ		ug/kg	M/I
NHFLA-DUP7-SEP2020	FD	1,2-Dibromo-3-chloropropane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	1,2-Dichlorobenzene	5.20	2.60 U	2.60 UJ		ug/kg	M/D/I
NHFLA-DUP7-SEP2020	FD	1,2-Dichloroethane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	1,2-Dichloropropane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	1,3-Dichlorobenzene	5.20	2.60 U	2.60 UJ		ug/kg	M/D/I
NHFLA-DUP7-SEP2020	FD	1,4-Dichlorobenzene	5.20	2.60 U	2.60 UJ		ug/kg	M/D/I
NHFLA-DUP7-SEP2020	FD	Benzene	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Bromochloromethane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Bromoform	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Carbon disulfide	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Carbon tetrachloride	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Chlorobenzene	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Chloroform	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	cis-1,2-Dichloroethene	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	cis-1,3-Dichloropropene	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Cyclohexane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Dibromochloromethane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Ethylbenzene	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Isopropylbenzene (Cumene)	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	m,p-Xylene	10.0	5.20 U	5.20 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Methylcyclohexane	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	o-Xylene	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Styrene	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Tetrachloroethene (PCE)	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Toluene	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	trans-1,2-Dichloroethene	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Trichloroethene (TCE)	5.20	2.60 U	2.60 UJ		ug/kg	D/I
NHFLA-DUP7-SEP2020	FD	Trichlorofluoromethane	10.0	5.20 U	5.20 UJ		ug/kg	D/I
NHFLA-SL11A-A-SEP2020	N	1,1,1-Trichloroethane	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	1,1,2,2-Tetrachloroethane	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	1,1,2-Trichloroethane	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	1,1-Dichloroethane	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	1,1-Dichloroethene	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	1,2,3-Trichlorobenzene	4.60	2.30 UMM	2.30 UJ		ug/kg	M
NHFLA-SL11A-A-SEP2020	N	1,2,4-Trichlorobenzene	4.60	2.30 UMM	2.30 UJ		ug/kg	M
NHFLA-SL11A-A-SEP2020	N	1,2-Dibromo-3-chloropropane	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	1,2-Dichlorobenzene	4.60	2.30 UM	2.30 UJ		ug/kg	M/D
NHFLA-SL11A-A-SEP2020	N	1,2-Dichloroethane	4.60	2.30 U	2.30 UJ		ug/kg	D

Table of All Qualified Results

Test Method: SW8260 Extraction Method: SW5035								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-SL11A-A-SEP2020	N	1,2-Dichloropropane	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	1,3-Dichlorobenzene	4.60	2.30 UM	2.30 UJ		ug/kg	M/D
NHFLA-SL11A-A-SEP2020	N	1,4-Dichlorobenzene	4.60	2.30 UM	2.30 UJ		ug/kg	M/D
NHFLA-SL11A-A-SEP2020	N	Benzene	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	Bromochloromethane	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	Bromoform	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	Carbon disulfide	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	Carbon tetrachloride	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	Chlorobenzene	4.60	2.30 UM	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	Chloroform	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	cis-1,2-Dichloroethene	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	cis-1,3-Dichloropropene	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	Cyclohexane	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	Dibromochloromethane	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	Ethylbenzene	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	Isopropylbenzene (Cumene)	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	m,p-Xylene	9.30	4.60 U	4.60 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	Methylcyclohexane	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	o-Xylene	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	Styrene	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	Tetrachloroethene (PCE)	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	Toluene	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	trans-1,2-Dichloroethene	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	Trichloroethene (TCE)	4.60	2.30 U	2.30 UJ		ug/kg	D
NHFLA-SL11A-A-SEP2020	N	Trichlorofluoromethane	9.30	4.60 U	4.60 UJ		ug/kg	D

Test Method: SW8270 Extraction Method: SW3510								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB15-2-SEP2020	EB	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-EB15-2-SEP2020	EB	2,4,6-Trichlorophenol	9.60	7.20 UL	7.20 X		ug/l	C
NHFLA-EB15-2-SEP2020	EB	2,4-Dichlorophenol	9.60	7.20 UL	7.20 X		ug/l	C
NHFLA-EB15-2-SEP2020	EB	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-EB15-2-SEP2020	EB	2-Chlorophenol	9.60	7.20 UL	7.20 X		ug/l	C
NHFLA-EB15-2-SEP2020	EB	2-Nitrophenol	9.60	7.20 UL	7.20 X		ug/l	C
NHFLA-EB15-2-SEP2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-EB15-2-SEP2020	EB	4-Chloro-3-methylphenol	9.60	7.20 UL	7.20 UJ		ug/l	C
NHFLA-EB15-2-SEP2020	EB	Bis(2-ethylhexyl)phthalate	9.60	55.0 BL	55.0 J	+	ug/l	L/C
NHFLA-EB15-2-SEP2020	EB	Cresols, m- & p-	9.60	7.20 UL	7.20 UJ		ug/l	C
NHFLA-EB15-2-SEP2020	EB	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-EB15-2-SEP2020	EB	Phenol	9.60	7.20 UL	7.20 X		ug/l	C

Table of All Qualified Results

Test Method: SW8270 Extraction Method: SW3550

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP7-SEP2020	FD	Bis(2-ethylhexyl)phthalate	360	530	530 J		ug/kg	L/M
NHFLA-DUP7-SEP2020	FD	Atrazine	360	180 JL	180 J	-	ug/kg	C/TR
NHFLA-DUP7-SEP2020	FD	4-Chloroaniline	360	270 UL	270 X		ug/kg	C/M
NHFLA-DUP7-SEP2020	FD	Caprolactam	360	270 U	270 UJ		ug/kg	M
NHFLA-DUP7-SEP2020	FD	2,4-Dimethylphenol	360	270 U	270 UJ		ug/kg	M/D
NHFLA-DUP7-SEP2020	FD	3-Nitroaniline	900	670 U	670 UJ		ug/kg	M
NHFLA-SL11A-A-SEP2020	N	Atrazine	320	120 JL	120 J	-	ug/kg	C/TR
NHFLA-SL11A-A-SEP2020	N	4-Chloroaniline	320	240 ULMM	240 X		ug/kg	C/M
NHFLA-SL11A-A-SEP2020	N	Caprolactam	320	240 UM	240 UJ		ug/kg	M
NHFLA-SL11A-A-SEP2020	N	2,4-Dimethylphenol	320	240 UM	240 UJ		ug/kg	M/D
NHFLA-SL11A-A-SEP2020	N	3-Nitroaniline	810	610 UMM	610 UJ		ug/kg	M
NHFLA-SL11A-A-SEP2020	N	Bis(2-ethylhexyl)phthalate	320	740 MM	740 J	-	ug/kg	M
NHFLA-SL11B-A-SEP2020	N	4-Chloroaniline	320	240 UL	240 UJ		ug/kg	C
NHFLA-SL11B-A-SEP2020	N	Atrazine	320	240 UL	240 X		ug/kg	C
NHFLA-SL25-A-SEP2020	N	Bis(2-ethylhexyl)phthalate	320	370	370 J	+	ug/kg	L
NHFLA-SL25-A-SEP2020	N	4-Chloroaniline	320	240 UL	240 UJ		ug/kg	C
NHFLA-SL25-A-SEP2020	N	Atrazine	320	730 L	730 J	-	ug/kg	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method LYDKHN

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP7-SEP2020	FD	Total Organic Carbon	950	17000	17000 J	17000 J	M
NHFLA-SL11A-A-SEP2020	N	Total Organic Carbon	820	23000	23000 J	23000 J	M
NHFLA-SL11B-A-SEP2020	N	Total Organic Carbon	1200	12000	12000 J	12000	
NHFLA-SL25-A-SEP2020	N	Total Organic Carbon	1400	30000	30000 J	30000	

Modified Qualifiers for test method SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP7-SEP2020	FD	Magnesium	19.0	9570	9570	9570 J	D
NHFLA-SL11A-A-SEP2020	N	Antimony	1.20	0.550 JN	0.550 J	0.550 X	M/TR
NHFLA-SL11A-A-SEP2020	N	Magnesium	16.0	12100 N*EA	12100	12100 J	D
NHFLA-SL11B-A-SEP2020	N	Copper	4.40	24.5	24.5 J	24.5	

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-SL11A-A-SEP2020	N	1,1,1-Trichloroethane	4.60	2.30 U	2.30 UJ	2.30 UJ	D
NHFLA-SL11A-A-SEP2020	N	1,1,2,2-Tetrachloroethane	4.60	2.30 U	2.30 UJ	2.30 UJ	D
NHFLA-SL11A-A-SEP2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	4.60	2.30 U	2.30 UJ	2.30 UJ	D
NHFLA-SL11A-A-SEP2020	N	1,1,2-Trichloroethane	4.60	2.30 U	2.30 UJ	2.30 UJ	D
NHFLA-SL11A-A-SEP2020	N	1,1-Dichloroethane	4.60	2.30 U	2.30 UJ	2.30 UJ	D
NHFLA-SL11A-A-SEP2020	N	1,1-Dichloroethene	4.60	2.30 U	2.30 UJ	2.30 UJ	D
NHFLA-SL11A-A-SEP2020	N	1,2,3-Trichlorobenzene	4.60	2.30 UMM	2.30 UJ	2.30 UJ	M
NHFLA-SL11A-A-SEP2020	N	1,2,4-Trichlorobenzene	4.60	2.30 UMM	2.30 UJ	2.30 UJ	M
NHFLA-SL11A-A-SEP2020	N	1,2-Dibromo-3-chloropropane	4.60	2.30 U	2.30 UJ	2.30 UJ	D
NHFLA-SL11A-A-SEP2020	N	1,2-Dibromoethane (EDB)	4.60	2.30 U	2.30 UJ	2.30 U	
NHFLA-SL11A-A-SEP2020	N	1,2-Dichlorobenzene	4.60	2.30 UM	2.30 UJ	2.30 UJ	M/D
NHFLA-SL11A-A-SEP2020	N	1,2-Dichloroethane	4.60	2.30 U	2.30 UJ	2.30 UJ	D
NHFLA-SL11A-A-SEP2020	N	1,2-Dichloropropane	4.60	2.30 U	2.30 UJ	2.30 UJ	D
NHFLA-SL11A-A-SEP2020	N	1,3-Dichlorobenzene	4.60	2.30 UM	2.30 UJ	2.30 UJ	M/D
NHFLA-SL11A-A-SEP2020	N	1,4-Dichlorobenzene	4.60	2.30 UM	2.30 UJ	2.30 UJ	M/D
NHFLA-SL11A-A-SEP2020	N	2-Butanone (MEK)	23.0	12.0 U	12.0 UJ	12.0 U	
NHFLA-SL11A-A-SEP2020	N	2-Hexanone	23.0	12.0 U	12.0 UJ	12.0 U	
NHFLA-SL11A-A-SEP2020	N	4-Methyl-2-pentanone (MIBK)	23.0	12.0 U	12.0 UJ	12.0 U	
NHFLA-SL11A-A-SEP2020	N	Acetone	23.0	12.0 U	12.0 UJ	12.0 U	
NHFLA-SL11A-A-SEP2020	N	Benzene	4.60	2.30 U	2.30 UJ	2.30 UJ	D
NHFLA-SL11A-A-SEP2020	N	Bromochloromethane	4.60	2.30 U	2.30 UJ	2.30 UJ	D
NHFLA-SL11A-A-SEP2020	N	Bromodichloromethane	4.60	2.30 U	2.30 UJ	2.30 U	
NHFLA-SL11A-A-SEP2020	N	Bromoform	4.60	2.30 U	2.30 UJ	2.30 UJ	D
NHFLA-SL11A-A-SEP2020	N	Bromomethane	9.30	4.60 U	4.60 UJ	4.60 U	
NHFLA-SL11A-A-SEP2020	N	Carbon disulfide	4.60	2.30 U	2.30 UJ	2.30 UJ	D
NHFLA-SL11A-A-SEP2020	N	Carbon tetrachloride	4.60	2.30 U	2.30 UJ	2.30 UJ	D

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-SL11A-A-SEP2020	N	Chlorobenzene	4.60	2.30 UM	2.30 UJ	2.30 UJ	D
NHFLA-SL11A-A-SEP2020	N	Chloroethane	9.30	4.60 U	4.60 UJ	4.60 U	
NHFLA-SL11A-A-SEP2020	N	Chloroform	4.60	2.30 U	2.30 UJ	2.30 UJ	D
NHFLA-SL11A-A-SEP2020	N	Chloromethane	9.30	4.60 U	4.60 UJ	4.60 U	
NHFLA-SL11A-A-SEP2020	N	cis-1,2-Dichloroethene	4.60	2.30 U	2.30 UJ	2.30 UJ	D
NHFLA-SL11A-A-SEP2020	N	cis-1,3-Dichloropropene	4.60	2.30 U	2.30 UJ	2.30 UJ	D
NHFLA-SL11A-A-SEP2020	N	Cyclohexane	4.60	2.30 U	2.30 UJ	2.30 UJ	D
NHFLA-SL11A-A-SEP2020	N	Dibromochloromethane	4.60	2.30 U	2.30 UJ	2.30 UJ	D
NHFLA-SL11A-A-SEP2020	N	Dichlorodifluoromethane	9.30	4.60 U	4.60 UJ	4.60 U	
NHFLA-SL11A-A-SEP2020	N	Ethylbenzene	4.60	2.30 U	2.30 UJ	2.30 UJ	D
NHFLA-SL11A-A-SEP2020	N	Isopropylbenzene (Cumene)	4.60	2.30 U	2.30 UJ	2.30 UJ	D
NHFLA-SL11A-A-SEP2020	N	m,p-Xylene	9.30	4.60 U	4.60 UJ	4.60 UJ	D
NHFLA-SL11A-A-SEP2020	N	Methyl acetate	4.60	2.80 U	2.80 UJ	2.80 U	
NHFLA-SL11A-A-SEP2020	N	Methyl tert-butyl ether (MTBE)	9.30	4.60 U	4.60 UJ	4.60 U	
NHFLA-SL11A-A-SEP2020	N	Methylcyclohexane	4.60	2.30 U	2.30 UJ	2.30 UJ	D
NHFLA-SL11A-A-SEP2020	N	Methylene chloride	23.0	12.0 U	12.0 UJ	12.0 U	
NHFLA-SL11A-A-SEP2020	N	o-Xylene	4.60	2.30 U	2.30 UJ	2.30 UJ	D
NHFLA-SL11A-A-SEP2020	N	Styrene	4.60	2.30 U	2.30 UJ	2.30 UJ	D
NHFLA-SL11A-A-SEP2020	N	Tetrachloroethene (PCE)	4.60	2.30 U	2.30 UJ	2.30 UJ	D
NHFLA-SL11A-A-SEP2020	N	Toluene	4.60	2.30 U	2.30 UJ	2.30 UJ	D
NHFLA-SL11A-A-SEP2020	N	trans-1,2-Dichloroethene	4.60	2.30 U	2.30 UJ	2.30 UJ	D
NHFLA-SL11A-A-SEP2020	N	trans-1,3-Dichloropropene	4.60	2.30 U	2.30 UJ	2.30 U	
NHFLA-SL11A-A-SEP2020	N	Trichloroethene (TCE)	4.60	2.30 U	2.30 UJ	2.30 UJ	D
NHFLA-SL11A-A-SEP2020	N	Trichlorofluoromethane	9.30	4.60 U	4.60 UJ	4.60 UJ	D
NHFLA-SL11A-A-SEP2020	N	Vinyl chloride	9.30	4.60 U	4.60 UJ	4.60 U	
NHFLA-SL25-A-SEP2020	N	1,1,1-Trichloroethane	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	1,1,2,2-Tetrachloroethane	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	1,1,2-Trichloroethane	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	1,1-Dichloroethane	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	1,1-Dichloroethene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	1,2,3-Trichlorobenzene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	1,2,4-Trichlorobenzene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	1,2-Dibromo-3-chloropropane	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	1,2-Dibromoethane (EDB)	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	1,2-Dichlorobenzene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	1,2-Dichloroethane	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	1,2-Dichloropropane	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	1,3-Dichlorobenzene	4.80	2.40 U	2.40 UJ	2.40 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-SL25-A-SEP2020	N	1,4-Dichlorobenzene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	2-Butanone (MEK)	24.0	12.0 U	12.0 UJ	12.0 U	
NHFLA-SL25-A-SEP2020	N	2-Hexanone	24.0	12.0 U	12.0 UJ	12.0 U	
NHFLA-SL25-A-SEP2020	N	4-Methyl-2-pentanone (MIBK)	24.0	12.0 U	12.0 UJ	12.0 U	
NHFLA-SL25-A-SEP2020	N	Acetone	24.0	12.0 U	12.0 UJ	12.0 U	
NHFLA-SL25-A-SEP2020	N	Benzene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	Bromochloromethane	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	Bromodichloromethane	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	Bromoform	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	Bromomethane	9.60	4.80 U	4.80 UJ	4.80 U	
NHFLA-SL25-A-SEP2020	N	Carbon disulfide	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	Carbon tetrachloride	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	Chlorobenzene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	Chloroethane	9.60	4.80 U	4.80 UJ	4.80 U	
NHFLA-SL25-A-SEP2020	N	Chloroform	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	Chloromethane	9.60	4.80 U	4.80 UJ	4.80 U	
NHFLA-SL25-A-SEP2020	N	cis-1,2-Dichloroethene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	cis-1,3-Dichloropropene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	Cyclohexane	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	Dibromochloromethane	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	Dichlorodifluoromethane	9.60	4.80 U	4.80 UJ	4.80 U	
NHFLA-SL25-A-SEP2020	N	Ethylbenzene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	Isopropylbenzene (Cumene)	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	m,p-Xylene	9.60	4.80 U	4.80 UJ	4.80 U	
NHFLA-SL25-A-SEP2020	N	Methyl acetate	4.80	2.90 U	2.90 UJ	2.90 U	
NHFLA-SL25-A-SEP2020	N	Methyl tert-butyl ether (MTBE)	9.60	4.80 U	4.80 UJ	4.80 U	
NHFLA-SL25-A-SEP2020	N	Methylcyclohexane	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	Methylene chloride	24.0	12.0 U	12.0 UJ	12.0 U	
NHFLA-SL25-A-SEP2020	N	o-Xylene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	Styrene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	Tetrachloroethene (PCE)	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	Toluene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	trans-1,2-Dichloroethene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	trans-1,3-Dichloropropene	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	Trichloroethene (TCE)	4.80	2.40 U	2.40 UJ	2.40 U	
NHFLA-SL25-A-SEP2020	N	Trichlorofluoromethane	9.60	4.80 U	4.80 UJ	4.80 U	
NHFLA-SL25-A-SEP2020	N	Vinyl chloride	9.60	4.80 U	4.80 UJ	4.80 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP7-SEP2020	FD	2,4-Dimethylphenol	360	270 U	270 UJ	270 UJ	M/D
NHFLA-SL11A-A-SEP2020	N	2,4-Dimethylphenol	320	240 UM	240 UJ	240 UJ	M/D

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7689

Location	Analysis
NHFLA-SL11A	BNASIM

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	2-Methylnaphthalene	ND	ND	20.0	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Acenaphthene	ND	ND	20.0	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Acenaphthylene	ND	ND	20.0	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Anthracene	3.60	2.80	20.0	25.0	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Benzo(a)anthracene	30.0	28.0	20.0	6.90	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Benzo(a)pyrene	29.0	32.0	20.0	9.84	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Benzo(b)fluoranthene	50.0	47.0	20.0	6.19	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Benzo(g,h,i)perylene	24.0	25.0	20.0	4.08	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Benzo(k)fluoranthene	14.0	17.0	20.0	19.4	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Chrysene	34.0	37.0	20.0	8.45	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Dibenz(a,h)anthracene	5.50	ND	20.0	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Fluoranthene	59.0	38.0	20.0	43.3	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Fluorene	ND	ND	20.0	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Indeno(1,2,3-c,d)pyrene	20.0	20.0	20.0	0.00	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Naphthalene	ND	ND	20.0	NA	50	NA	OK

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Field Duplicate Report By SDG

C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7689

Location	Analysis
NHFLA-SL11A	BNASIM

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Phenanthrene	30.0	19.0	20.0	44.9	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Pyrene	54.0	43.0	20.0	22.7	50	NA	OK

Location	Analysis
NHFLA-SL11A	LYDKHN

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Total Organic Carbon	23000	17000	820	30.0	50	OK	NA

Location	Analysis
NHFLA-SL11A	SW6010

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Aluminum	12200	12600	23.0	3.23	50	OK	NA
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Antimony	0.550	ND	1.20	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Arsenic	9.16	8.31	1.20	9.73	50	OK	NA
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Barium	60.6	62.6	0.390	3.25	50	OK	NA
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Beryllium	0.586	0.598	0.390	2.03	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Cadmium	0.354	0.355	0.780	0.282	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7689

Location	Analysis
NHFLA-SL11A	SW6010

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Calcium	48600	45400	9.80	6.81	50	OK	NA
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Chromium	30.3	17.2	1.60	55.2	50	Out	NA
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Cobalt	10.6	9.65	1.60	9.38	50	OK	NA
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Copper	108	31.8	3.90	109	50	Out	NA
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Iron	24500	23300	16.0	5.02	50	OK	NA
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Lead	23.1	20.9	0.780	10.0	50	OK	NA
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Magnesium	12100	9570	16.0	23.4	50	OK	NA
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Manganese	507	449	0.780	12.1	50	OK	NA
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Nickel	32.7	32.5	1.60	0.613	50	OK	NA
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Potassium	2140	2290	160	6.77	50	OK	NA
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Selenium	63.9	ND	1.60	NA	50	NA	63.9
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Silver	0.100	ND	1.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Sodium	ND	ND	160	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Thallium	0.200	0.170	2.30	16.2	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Vanadium	24.0	25.1	1.60	4.48	50	OK	NA

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Field Duplicate Report By SDG

C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7689

Location	Analysis
NHFLA-SL11A	SW6010

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Zinc	159	146	3.10	8.52	50	OK	NA

Location	Analysis
NHFLA-SL11A	SW7196

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Chromium, Hexavalent	ND	0.250	0.570	NA	50	NA	OK

Location	Analysis
NHFLA-SL11A	SW7471

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Mercury	0.0350	0.0310	0.0370	12.1	50	NA	OK

Location	Analysis
NHFLA-SL11A	SW8082

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	PCB-1016 (Aroclor 1016)	ND	ND	18.0	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	PCB-1221 (Aroclor 1221)	ND	ND	18.0	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	PCB-1232 (Aroclor 1232)	ND	ND	18.0	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7689

Location	Analysis
NHFLA-SL11A	SW8082

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	PCB-1242 (Aroclor 1242)	ND	ND	18.0	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	PCB-1248 (Aroclor 1248)	ND	ND	18.0	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	PCB-1254 (Aroclor 1254)	ND	ND	18.0	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	PCB-1260 (Aroclor 1260)	ND	ND	18.0	NA	50	NA	OK

Location	Analysis
NHFLA-SL11A	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	1,1,1-Trichloroethane	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	1,1,2,2-Tetrachloroethane	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	1,1,2-Trichloroethane	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	1,1-Dichloroethane	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	1,1-Dichloroethene	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	1,2,3-Trichlorobenzene	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	1,2,4-Trichlorobenzene	ND	ND	4.60	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7689

Location	Analysis
NHFLA-SL11A	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	1,2-Dibromo-3-chloropropane	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	1,2-Dibromoethane (EDB)	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	1,2-Dichlorobenzene	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	1,2-Dichloroethane	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	1,2-Dichloropropane	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	1,3-Dichlorobenzene	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	1,4-Dichlorobenzene	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	2-Butanone (MEK)	ND	ND	23.0	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	2-Hexanone	ND	ND	23.0	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	4-Methyl-2-pentanone (MIBK)	ND	ND	23.0	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Acetone	ND	6.50	23.0	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Benzene	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Bromochloromethane	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Bromodichloromethane	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Bromoform	ND	ND	4.60	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7689

Location	Analysis
NHFLA-SL11A	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Bromomethane	ND	ND	9.30	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Carbon disulfide	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Carbon tetrachloride	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Chlorobenzene	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Chloroethane	ND	ND	9.30	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Chloroform	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Chloromethane	ND	ND	9.30	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	cis-1,2-Dichloroethene	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	cis-1,3-Dichloropropene	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Cyclohexane	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Dibromochloromethane	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Dichlorodifluoromethane	ND	ND	9.30	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Ethylbenzene	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Isopropylbenzene (Cumene)	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	m,p-Xylene	ND	ND	9.30	NA	50	NA	OK

FD = Field Duplicate
RL = Reporting Limit
RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7689

Location	Analysis
NHFLA-SL11A	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Methyl acetate	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Methyl tert-butyl ether (MTBE)	ND	ND	9.30	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Methylcyclohexane	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Methylene chloride	ND	9.90	23.0	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	o-Xylene	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Styrene	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Tetrachloroethene (PCE)	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Toluene	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	trans-1,2-Dichloroethene	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	trans-1,3-Dichloropropene	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Trichloroethene (TCE)	ND	ND	4.60	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Trichlorofluoromethane	ND	ND	9.30	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Vinyl chloride	ND	ND	9.30	NA	50	NA	OK

FD = Field Duplicate
RL = Reporting Limit
RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7689

Location	Analysis
NHFLA-SL11A	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	1,2,4,5-Tetrachlorobenzene	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	1,4-Dioxane (p-Dioxane)	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	2,2'-Oxybis(1-chloropropane)	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	2,4,5-Trichlorophenol	ND	ND	810	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	2,4,6-Trichlorophenol	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	2,4-Dichlorophenol	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	2,4-Dimethylphenol	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	2,4-Dinitrophenol	ND	ND	810	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	2,4-Dinitrotoluene	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	2,6-Dinitrotoluene	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	2-Chloronaphthalene	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	2-Chlorophenol	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	2-Methylphenol (o-Cresol)	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	2-Nitroaniline	ND	ND	810	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	2-Nitrophenol	ND	ND	320	NA	50	NA	OK

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RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7689

Location	Analysis
NHFLA-SL11A	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	3,3'-Dichlorobenzidine	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	3-Nitroaniline	ND	ND	810	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	4,6-Dinitro-2-methylphenol	ND	ND	810	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	4-Bromophenyl phenyl ether	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	4-Chloro-3-methylphenol	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	4-Chloroaniline	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	4-Chlorophenyl phenyl ether	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	4-Nitroaniline	ND	ND	810	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	4-Nitrophenol	ND	ND	810	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Acetophenone	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Atrazine	120	180	320	40.0	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Benzaldehyde	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Benzyl butyl phthalate	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Biphenyl (Diphenyl)	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Bis(2-chloroethoxy)methane	ND	ND	320	NA	50	NA	OK

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RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7689

Location	Analysis
NHFLA-SL11A	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Bis(2-ethylhexyl)phthalate	740	530	320	33.1	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Caprolactam	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Carbazole	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Cresols, m- & p-	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Di-n-butyl phthalate	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	di-n-Octyl phthalate	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Dibenzofuran	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Diethyl phthalate	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Dimethyl phthalate	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Hexachlorobenzene	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Hexachlorobutadiene	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Hexachlorocyclopentadiene	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Hexachloroethane	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Isophorone	ND	ND	320	NA	50	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: SN7689

Location	Analysis
NHFLA-SL11A	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	N-Nitrosodi-n-propylamine	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	N-Nitrosodiphenylamine	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Nitrobenzene	ND	ND	320	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Pentachlorophenol	ND	ND	810	NA	50	NA	OK
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	Phenol	ND	ND	320	NA	50	NA	OK

Location	Analysis
NHFLA-SL11A	SW9045

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-SL11A-A-SEP2020 / NHFLA-DUP7-SEP2020	SN7689-1 / SN7689-2	pH	8.50	8.40	0.100	1.18	50	OK	NA

FD = Field Duplicate
RL = Reporting Limit
RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

			Location ID	NHFLA-SL11A		
			Field sample ID	NHFLA-MS5-	NHFLA-	NHFLA-
			Lab Sample ID	WG286246-5	SN7689-1	SN7689-4
			Sample Type	MS	Parent	Parent
			Sample Date	9/11/20	9/11/20	9/11/20
			Analysis Information	25X	1.2X	1.2X
SN7689						
Chromium, Hexavalent (Colorimetric) (SW7196/SW3060)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**			
Chromium, Hexavalent (mg/kg)	84-110	20	82.5	0.570 U	0.580 U	

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID	NHFLA-SL11A			
	Field sample ID	NHFLA-MS5-	NHFLA-MSD5-SEP2020		NHFLA-
	Lab Sample ID	WG287058-3	WG287058-4		SN7689-1
	Sample Type	MS	MSD		Parent
	Sample Date	9/11/20	9/11/20		9/11/20
	Analysis Information	1X	1X		1X
SN7689					
GC/MS-SIM Analysis by SW8270 (BNASIM/SW3550)	**Recovery Limit** / **RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	
2-Methylnaphthalene (µg/kg)	39-114 / 20	59.4	65.6	10.5	20.0 U
Acenaphthene (µg/kg)	44-111 / 20	60.7	68.2	12.2	20.0 U
Acenaphthylene (µg/kg)	39-116 / 20	52.8	59.1	11.8	20.0 U
Anthracene (µg/kg)	50-114 / 20	50.7	60.9	17.4	3.60 J
Benzo(a)anthracene (µg/kg)	54-122 / 20	56.7	105	40.4	**30.0**
Benzo(a)pyrene (µg/kg)	50-125 / 20	56.7	93.2	32.6	**29.0**
Benzo(b)fluoranthene (µg/kg)	53-128 / 20	62.0	118	36.3	**50.0**
Benzo(g,h,i)perylene (µg/kg)	49-127 / 20	55.4	85.3	29.7	**24.0**
Benzo(k)fluoranthene (µg/kg)	56-123 / 20	62.0	77.4	17.9	14.0 J
Chrysene (µg/kg)	57-118 / 20	52.8	85.3	28.9	**34.0 J**
Dibenz(a,h)anthracene (µg/kg)	50-129 / 20	65.3	88.6	28.1	5.50 J
Fluoranthene (µg/kg)	55-119 / 20	67.3	106	24.0	**59.0**
Fluorene (µg/kg)	47-114 / 20	66.0	74.8	13.1	20.0 U
Indeno(1,2,3-c,d)pyrene (µg/kg)	49-130 / 20	59.4	90.6	31.2	**20.0**
Naphthalene (µg/kg)	38-111 / 20	63.3	68.2	8.00	20.0 U
Phenanthrene (µg/kg)	49-113 / 20	71.2	84.0	11.2	**30.0**

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

		Location ID	**NHFLA-SL11A**			
		Field sample ID	**NHFLA-MS5-**	**NHFLA-MSD5-SEP2020**		**NHFLA-**
		Lab Sample ID	WG287058-3	WG287058-4		SN7689-1
		Sample Type	MS	MSD		Parent
		Sample Date	9/11/20	9/11/20		9/11/20
		Analysis Information	1X	1X		1X
GC/MS-SIM Analysis by SW8270 (BNASIM/SW3550)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	
Pyrene (µg/kg)	55-117	20	52.8	99.7	32.1	**54.0 J**

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

		Location ID	**NHFLA-SL11A**				
		Field sample ID	**NHFLA-MS5-**	**NHFLA-MSD5-SEP2020**		**NHFLA-**	**NHFLA-**
		Lab Sample ID	WG286408-4	WG286408-5		SN7689-1	SN7689-4
		Sample Type	MS	MSD		Parent	Parent
		Sample Date	9/11/20	9/11/20		9/11/20	9/11/20
		Analysis Information	1X	1X		1X	1X
SN7689							
Lloyd Kahn Method for the Determination of Total Organic Carbon in Sediment, USEPA Region II Method (LYDKHN/METHOD)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**		
Total Organic Carbon (µg/g)	75-125	30	114	121	6.45	**23000 J**	**12000 J**

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-SL11A				
	Field sample ID		NHFLA-MS5-	NHFLA-MSD5-SEP2020		NHFLA-	NHFLA-
	Lab Sample ID		SN7689-001S	SN7689-001P		SN7689-1	SN7689-4
	Sample Type		MS	MSD		Parent	Parent
	Sample Date		9/11/20	9/11/20		9/11/20	9/11/20
	Analysis Information		1X	1X		1X	1X
SN7689							
Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique) (SW7471/METHOD)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**		
Mercury (mg/kg)	80-124	20	91.6	100	2.83	0.0350 J	0.0220 J

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

		Location ID	**NHFLA-SL11A**				
		Field sample ID	**NHFLA-MS5-**	**NHFLA-MSD5-SEP2020**		**NHFLA-**	**NHFLA-**
		Lab Sample ID	WG286205-4	WG286205-5		SN7689-1	SN7689-4
		Sample Type	MS	MSD		Parent	Parent
		Sample Date	9/11/20	9/11/20		9/11/20	9/11/20
		Analysis Information	1X	1X		1X	1X
SN7689							
Polychlorinated Biphenyls (PCB) (SW8082/SW3550)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**		
PCB-1016 (Aroclor 1016) (µg/kg)	47-134	30	72.9	73.7	0.00	18.0 U	19.0 U
PCB-1260 (Aroclor 1260) (µg/kg)	53-140	30	72.9	73.7	0.00	18.0 U	-

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
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UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID	NHFLA-SL11A				
	Field sample ID	NHFLA-MS5-	NHFLA-MSD5-SEP2020		NHFLA-	NHFLA-
	Lab Sample ID	WG287057-3	WG287057-4		SN7689-1	SN7689-4
	Sample Type	MS	MSD		Parent	Parent
	Sample Date	9/11/20	9/11/20		9/11/20	9/11/20
	Analysis Information	1X	1X		1X	1X
SN7689						
Semivolatile Organic Compounds by Capillary GC/MS (SW8270/SW3550)	**Recovery Limit** / **RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**		
1,2,4,5-Tetrachlorobenzene (µg/kg)	37-119 / 20	58.2	63.2	8.70	320 U	-
1,4-Dioxane (p-Dioxane) (µg/kg)	10-70 / 20	30.2	31.6	5.13	320 U	-
2,2'-Oxybis(1-chloropropane) (µg/kg)	33-131 / 20	49.7	44.2	11.2	320 U	-
2,4,5-Trichlorophenol (µg/kg)	41-124 / 20	68.6	71.1	3.77	810 U	-
2,4,6-Trichlorophenol (µg/kg)	39-126 / 20	63.3	65.8	4.08	320 U	320 U
2,4-Dichlorophenol (µg/kg)	40-122 / 20	63.3	65.8	4.08	320 U	-
2,4-Dimethylphenol (µg/kg)	30-127 / 20	31.7	22.1	35.3	320 UJ	320 U
2,4-Dinitrophenol (µg/kg)	17-77 / 20	47.5	55.3	15.4	810 U	800 U
2,4-Dinitrotoluene (µg/kg)	48-126 / 20	68.8	68.4	0.00	320 U	320 U
2,6-Dinitrotoluene (µg/kg)	46-124 / 20	63.5	68.4	8.00	320 U	-
2-Chloronaphthalene (µg/kg)	41-114 / 20	45.5	48.4	6.74	320 U	320 U
2-Chlorophenol (µg/kg)	34-121 / 20	55.4	60.5	9.09	320 U	-
2-Methylphenol (o-Cresol) (µg/kg)	32-122 / 20	55.4	55.3	0.00	320 U	320 U
2-Nitroaniline (µg/kg)	44-127 / 20	63.5	68.4	8.00	810 U	800 U
2-Nitrophenol (µg/kg)	36-123 / 20	63.3	63.2	0.00	320 U	-
3,3'-Dichlorobenzidine (µg/kg)	22-121 / 20	34.9	39.5	12.8	320 U	320 U

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
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UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
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Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID	NHFLA-SL11A				
	Field sample ID	NHFLA-MS5-	NHFLA-MSD5-SEP2020		NHFLA-	NHFLA-
	Lab Sample ID	WG287057-3	WG287057-4		SN7689-1	SN7689-4
	Sample Type	MS	MSD		Parent	Parent
	Sample Date	9/11/20	9/11/20		9/11/20	9/11/20
	Analysis Information	1X	1X		1X	1X
Semivolatile Organic Compounds by Capillary GC/MS (SW8270/SW3550)	**Recovery Limit** / **RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**		
3-Nitroaniline (µg/kg)	33-119 / 20	21.7	20.0	7.59	810 UJ	-
4,6-Dinitro-2-methylphenol (µg/kg)	29-132 / 20	66.0	73.7	11.3	810 U	-
4-Bromophenyl phenyl ether (µg/kg)	46-124 / 20	63.5	63.2	0.00	320 U	320 U
4-Chloro-3-methylphenol (µg/kg)	45-122 / 20	63.3	65.8	4.08	320 U	320 U
4-Chloroaniline (µg/kg)	17-106 / 20	0.00	0.00	NA	320 X	-
4-Chlorophenyl phenyl ether (µg/kg)	45-121 / 20	68.8	68.4	0.00	320 U	-
4-Nitroaniline (µg/kg)	14-82 / 20	52.9	50.0	5.13	810 U	800 U
4-Nitrophenol (µg/kg)	30-132 / 20	81.8	86.8	6.25	810 U	800 U
Acetophenone (µg/kg)	33-115 / 20	58.2	63.2	8.70	320 U	-
Atrazine (µg/kg)	47-127 / 20	57.1	67.4	15.4	120 J	-
Benzaldehyde (µg/kg)	10-34 / 20	688	789	14.3	320 U	320 U
Benzyl butyl phthalate (µg/kg)	48-132 / 20	58.2	57.9	0.00	320 U	320 U
Biphenyl (Diphenyl) (µg/kg)	40-117 / 20	63.5	68.4	8.00	320 U	-
Bis(2-chloroethoxy)methane (µg/kg)	36-121 / 20	58.2	57.9	0.00	320 U	320 U
Bis(2-chloroethyl) ether (2-Chloroethyl ether) (µg/kg)	31-120 / 20	52.9	57.9	9.52	320 U	-
Bis(2-ethylhexyl)phthalate (µg/kg)	51-133 / 20	19.0	18.9	0.00	**740 J**	**710**
Caprolactam (µg/kg)	46-117 / 20	45.5	46.3	2.30	320 UJ	320 U

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MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
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Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID	NHFLA-SL11A				
	Field sample ID	NHFLA-MS5-	NHFLA-MSD5-SEP2020		NHFLA-	NHFLA-
	Lab Sample ID	WG287057-3	WG287057-4		SN7689-1	SN7689-4
	Sample Type	MS	MSD		Parent	Parent
	Sample Date	9/11/20	9/11/20		9/11/20	9/11/20
	Analysis Information	1X	1X		1X	1X
Semivolatile Organic Compounds by Capillary GC/MS (SW8270/SW3550)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**		
Carbazole (µg/kg)	50-123	20	74.1	78.9	6.90	320 U	-
Cresols, m- & p- (µg/kg)	34-119	20	52.8	55.3	4.88	320 U	320 U
Dibenzofuran (µg/kg)	44-120	20	68.8	68.4	0.00	320 U	-
Diethyl phthalate (µg/kg)	50-124	20	63.5	68.4	8.00	320 U	320 U
Dimethyl phthalate (µg/kg)	48-124	20	63.5	63.2	0.00	320 U	-
Di-n-butyl phthalate (µg/kg)	51-128	20	63.5	68.4	8.00	320 U	-
di-n-Octyl phthalate (µg/kg)	45-140	20	58.2	57.9	0.00	320 U	320 U
Hexachlorobenzene (µg/kg)	45-122	20	63.5	63.2	0.00	320 U	320 U
Hexachlorobutadiene (µg/kg)	32-123	20	52.9	52.6	0.00	320 U	-
Hexachlorocyclopentadiene (µg/kg)	10-70	20	31.7	36.3	14.0	320 U	320 U
Hexachloroethane (µg/kg)	28-117	20	45.5	47.4	4.55	320 U	320 U
Isophorone (µg/kg)	30-122	20	52.9	52.6	0.00	320 U	-
Nitrobenzene (µg/kg)	34-122	20	58.2	63.2	8.70	320 U	-
N-Nitrosodi-n-propylamine (µg/kg)	36-120	20	52.9	57.9	9.52	320 U	320 U
N-Nitrosodiphenylamine (µg/kg)	38-127	20	50.3	52.6	5.13	320 U	320 U
Pentachlorophenol (µg/kg)	25-133	20	47.5	52.6	10.5	810 U	-
Phenol (µg/kg)	34-121	20	58.0	60.5	4.44	320 U	-

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MS = Matrix Spike
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NA = Not Applicable
RPD = Relative Percent Difference
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Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-SL11A					
	Field sample ID		NHFLA-MS5-	NHFLA-MSD5-SEP2020		NHFLA-SL11A-A-SEP2020		NHFLA-
	Lab Sample ID		SN7689-001S	SN7689-001P		SN7689-1	SN7689-1	SN7689-4
	Sample Type		MS	MSD		Parent	Parent	Parent
	Sample Date		9/11/20	9/11/20		9/11/20	9/11/20	9/11/20
	Analysis Information		2X	2X		1X	2X	2X
SN7689								
Trace Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry (SW6010/SW3050)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**			
Aluminum (mg/kg)	74-119	20	2810	1250	16.2	**12200**	-	-
Antimony (mg/kg)	79-114	20	14.7	10.9	19.4	-	0.550 J	0.220 J
Arsenic (mg/kg)	82-111	20	107	90.5	8.85	-	**9.16**	**7.51**
Barium (mg/kg)	83-113	20	111	104	5.24	**60.6**	-	**64.7**
Beryllium (mg/kg)	83-113	20	114	104	8.66	**0.586 J**	-	0.685 J
Cadmium (mg/kg)	82-113	20	93.6	93.6	1.08	-	0.354 J	-
Calcium (mg/kg)	81-116	20	4520	3080	6.73	**48600**	-	**82700**
Chromium (mg/kg)	85-113	20	50.3	23.1	11.9	-	**30.3 J**	-
Cobalt (mg/kg)	85-112	20	95.9	93.1	2.95	-	**10.6**	**9.95**
Copper (mg/kg)	81-117	20	-258	-293	11.6	-	**108 J**	**24.5 J**
Iron (mg/kg)	81-118	20	3880	-500	13.5	-	**24500**	-
Lead (mg/kg)	81-112	20	124	92.5	13.5	-	**23.1 J**	**15.2**
Magnesium (mg/kg)	78-115	20	113	-333	20.0	-	**12100**	**6880**
Manganese (mg/kg)	84-114	20	510	311	11.8	-	**507**	-
Nickel (mg/kg)	83-113	20	100	91.5	5.27	-	**32.7**	-
Potassium (mg/kg)	81-116	20	130	108	9.16	-	**2140 J**	**1650**

Notes:
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ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
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Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID	NHFLA-SL11A					
	Field sample ID	NHFLA-MS5-	NHFLA-MSD5-SEP2020		NHFLA-SL11A-A-SEP2020		NHFLA-
	Lab Sample ID	SN7689-001S	SN7689-001P		SN7689-1	SN7689-1	SN7689-4
	Sample Type	MS	MSD		Parent	Parent	Parent
	Sample Date	9/11/20	9/11/20		9/11/20	9/11/20	9/11/20
	Analysis Information	2X	2X		1X	2X	2X
Trace Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry (SW6010/SW3050)	**Recovery Limit** / **RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**			
Selenium (mg/kg)	78-111 / 20	-703	-711	2.52	-	**63.9 J**	-
Silver (mg/kg)	82-112 / 20	88.8	95.1	5.96	-	0.100 J	1.70 U
Sodium (mg/kg)	83-118 / 20	106	101	6.01	-	160 U	-
Thallium (mg/kg)	83-111 / 20	90.3	91.3	0.412	-	0.200 J	-
Vanadium (mg/kg)	82-114 / 20	111	102	5.79	-	**24.0**	**27.3**
Zinc (mg/kg)	82-113 / 20	110	23.1	18.4	-	**159**	-

Notes:
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MS = Matrix Spike
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Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-SL11A				
	Field sample ID		NHFLA-MS5-	NHFLA-MSD5-SEP2020		NHFLA-	NHFLA-
	Lab Sample ID		WG287044-6	WG287044-7		SN7689-1	SN7689-4
	Sample Type		MS	MSD		Parent	Parent
	Sample Date		9/11/20	9/11/20		9/11/20	9/11/20
	Analysis Information		1X	1X		1X	1X
SN7689							
Volatile Organic Compounds by GC/MS (SW8260/SW5035)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**		
1,1,1-Trichloroethane (µg/kg)	73-130	20	91.7	108	24.0	4.60 UJ	4.20 U
1,1,2,2-Tetrachloroethane (µg/kg)	70-124	20	81.3	108	35.8	4.60 UJ	-
1,1,2-Trichloro-1,2,2-trifluoroethane (µg/kg)	66-136	20	102	119	23.4	4.60 UJ	4.20 U
1,1,2-Trichloroethane (µg/kg)	78-121	20	89.6	102	20.8	4.60 UJ	4.20 U
1,1-Dichloroethane (µg/kg)	76-125	20	89.6	108	26.3	4.60 UJ	-
1,1-Dichloroethene (µg/kg)	70-131	20	87.5	106	26.8	4.60 UJ	-
1,2,3-Trichlorobenzene (µg/kg)	66-130	20	60.4	57.7	3.39	4.60 UJ	-
1,2,4-Trichlorobenzene (µg/kg)	67-129	20	60.4	59.6	6.67	4.60 UJ	-
1,2-Dibromo-3-chloropropane (µg/kg)	61-132	20	66.7	88.5	35.9	4.60 UJ	4.20 U
1,2-Dibromoethane (EDB) (µg/kg)	78-122	20	89.6	100	18.9	4.60 UJ	4.20 U
1,2-Dichlorobenzene (µg/kg)	78-121	20	69.8	86.1	27.8	4.60 UJ	1.60 J
1,2-Dichloroethane (µg/kg)	73-128	20	95.8	110	21.4	4.60 UJ	4.20 U
1,2-Dichloropropane (µg/kg)	76-123	20	91.7	108	24.0	4.60 UJ	-
1,3-Dichlorobenzene (µg/kg)	77-121	20	70.8	88.5	30.0	4.60 UJ	-
1,4-Dichlorobenzene (µg/kg)	75-120	20	68.8	84.6	28.6	4.60 UJ	4.20 U
2-Butanone (MEK) (µg/kg)	51-148	20	81.3	96.2	24.7	23.0 UJ	-

Notes:
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Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-SL11A				
	Field sample ID		NHFLA-MS5-	NHFLA-MSD5-SEP2020		NHFLA-	NHFLA-
	Lab Sample ID		WG287044-6	WG287044-7		SN7689-1	SN7689-4
	Sample Type		MS	MSD		Parent	Parent
	Sample Date		9/11/20	9/11/20		9/11/20	9/11/20
	Analysis Information		1X	1X		1X	1X
Volatile Organic Compounds by GC/MS (SW8260/SW5035)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**		
2-Hexanone (µg/kg)	53-145	20	68.8	82.7	26.3	23.0 UJ	21.0 U
4-Methyl-2-pentanone (MIBK) (µg/kg)	65-135	20	79.2	94.2	25.3	23.0 UJ	-
Acetone (µg/kg)	36-164	20	104	115	18.2	23.0 UJ	-
Benzene (µg/kg)	77-121	20	91.7	112	27.5	4.60 UJ	-
Bromochloromethane (µg/kg)	78-125	20	89.6	104	22.7	4.60 UJ	4.20 U
Bromodichloromethane (µg/kg)	75-127	20	95.8	108	19.6	4.60 UJ	-
Bromoform (µg/kg)	67-132	20	81.3	94.2	22.7	4.60 UJ	4.20 U
Bromomethane (µg/kg)	53-143	20	89.6	96.2	15.1	9.30 UJ	8.50 U
Carbon disulfide (µg/kg)	63-132	20	97.9	119	27.5	4.60 UJ	-
Carbon tetrachloride (µg/kg)	70-135	20	95.8	110	21.4	4.60 UJ	-
Chlorobenzene (µg/kg)	79-120	20	79.2	96.2	27.3	4.60 UJ	-
Chloroethane (µg/kg)	59-139	20	97.9	119	27.5	9.30 UJ	-
Chloroform (µg/kg)	78-123	20	87.5	104	25.0	4.60 UJ	-
Chloromethane (µg/kg)	50-136	20	72.9	90.4	29.3	9.30 UJ	-
cis-1,2-Dichloroethene (µg/kg)	77-123	20	83.3	104	29.8	4.60 UJ	-
cis-1,3-Dichloropropene (µg/kg)	74-126	20	83.3	94.2	20.2	4.60 UJ	4.20 U
Cyclohexane (µg/kg)	67-131	20	102	123	26.5	4.60 UJ	4.20 U

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
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Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-SL11A				
	Field sample ID		NHFLA-MS5-	NHFLA-MSD5-SEP2020		NHFLA-	NHFLA-
	Lab Sample ID		WG287044-6	WG287044-7		SN7689-1	SN7689-4
	Sample Type		MS	MSD		Parent	Parent
	Sample Date		9/11/20	9/11/20		9/11/20	9/11/20
	Analysis Information		1X	1X		1X	1X
Volatile Organic Compounds by GC/MS (SW8260/SW5035)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**		
Dibromochloromethane (µg/kg)	74-126	20	83.3	100	26.1	4.60 UJ	4.20 U
Dichlorodifluoromethane (µg/kg)	29-149	20	68.8	84.6	28.6	9.30 UJ	8.50 U
Ethylbenzene (µg/kg)	76-122	20	85.4	102	25.5	4.60 UJ	-
Isopropylbenzene (Cumene) (µg/kg)	68-134	20	77.1	102	35.6	4.60 UJ	4.20 U
m,p-Xylene (µg/kg)	77-124	20	87.4	110	28.0	9.30 UJ	-
Methyl acetate (µg/kg)	53-144	20	75.0	84.6	20.0	4.60 UJ	4.20 U
Methyl tert-butyl ether (MTBE) (µg/kg)	73-125	20	94.7	110	20.0	9.30 UJ	8.50 U
Methylcyclohexane (µg/kg)	66-133	20	79.2	94.2	25.3	4.60 UJ	-
Methylene chloride (µg/kg)	70-128	20	93.8	112	25.2	23.0 UJ	21.0 U
o-Xylene (µg/kg)	77-123	20	79.2	94.2	25.3	4.60 UJ	4.20 U
Styrene (µg/kg)	76-124	20	85.4	100	23.7	4.60 UJ	4.20 U
Tetrachloroethene (PCE) (µg/kg)	73-128	20	79.2	100	31.1	4.60 UJ	4.20 U
Toluene (µg/kg)	77-121	20	91.7	106	22.2	4.60 UJ	4.20 U
trans-1,2-Dichloroethene (µg/kg)	74-125	20	87.5	108	28.6	4.60 UJ	4.20 U
trans-1,3-Dichloropropene (µg/kg)	71-130	20	91.7	100	16.7	4.60 UJ	-
Trichloroethene (TCE) (µg/kg)	77-123	20	93.8	110	23.5	4.60 UJ	-
Trichlorofluoromethane (µg/kg)	62-140	20	102	119	23.4	9.30 UJ	-

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

			Location ID	NHFLA-SL11A			
			Field sample ID	NHFLA-MS5-	NHFLA-MSD5-SEP2020	NHFLA-	NHFLA-
			Lab Sample ID	WG287044-6	WG287044-7	SN7689-1	SN7689-4
			Sample Type	MS	MSD	Parent	Parent
			Sample Date	9/11/20	9/11/20	9/11/20	9/11/20
			Analysis Information	1X	1X	1X	1X
Volatile Organic Compounds by GC/MS (SW8260/SW5035)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**		
Vinyl chloride (µg/kg)	56-135	20	89.6	112	29.7	9.30 UJ	8.50 U

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

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C02NY0079-02, Nike BU 51/52, Launch Area
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Rejected Results

Test Method: SW6010	Extraction Method: SW3050	Leach Method: NONE							
FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-DUP7-SEP2020	SN7689-2	S	FD	Antimony	1.50	0.930 U	0.930 X	mg/kg	M
NHFLA-SL11A-A-SEP2020	SN7689-1	S	N	Antimony	1.20	0.550 JN	0.550 X	mg/kg	M/TR

Test Method: SW8270	Extraction Method: SW3510	Leach Method: NONE							
FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-EB15-2-SEP2020	SN7689-5	W	EB	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-EB15-2-SEP2020	SN7689-5	W	EB	2,4,6-Trichlorophenol	9.60	7.20 UL	7.20 X	ug/l	C
NHFLA-EB15-2-SEP2020	SN7689-5	W	EB	2,4-Dichlorophenol	9.60	7.20 UL	7.20 X	ug/l	C
NHFLA-EB15-2-SEP2020	SN7689-5	W	EB	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-EB15-2-SEP2020	SN7689-5	W	EB	2-Chlorophenol	9.60	7.20 UL	7.20 X	ug/l	C
NHFLA-EB15-2-SEP2020	SN7689-5	W	EB	2-Nitrophenol	9.60	7.20 UL	7.20 X	ug/l	C
NHFLA-EB15-2-SEP2020	SN7689-5	W	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-EB15-2-SEP2020	SN7689-5	W	EB	Pentachlorophenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-EB15-2-SEP2020	SN7689-5	W	EB	Phenol	9.60	7.20 UL	7.20 X	ug/l	C

Test Method: SW8270	Extraction Method: SW3550	Leach Method: NONE							
FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-DUP7-SEP2020	SN7689-2	S	FD	4-Chloroaniline	360	270 UL	270 X	ug/kg	C/M
NHFLA-SL11A-A-SEP2020	SN7689-1	S	N	4-Chloroaniline	320	240 ULMM	240 X	ug/kg	C/M
NHFLA-SL11B-A-SEP2020	SN7689-4	S	N	Atrazine	320	240 UL	240 X	ug/kg	C

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Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
BNASIM/SW3550/NONE	1	2
SW6010/SW3050/NONE	4	27
SW7196/SW3060/NONE	4	4
SW7471/METHOD/NONE	2	2
SW8260/SW5035/NONE	1	2
SW8270/SW3550/NONE	1	30

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
BNASIM/SW3550/NONE	NHFLA-SL25-A-SEP2020	N	3	Benzo(a)pyrene	570	9.50	29.0	58.0	36.666666	ug/kg
BNASIM/SW3550/NONE	NHFLA-SL25-A-SEP2020	N	3	Dibenz(a,h)anthracene	70.0	5.20	29.0	58.0	36.666666	ug/kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-DUP7-SEP2020	FD	2	Antimony	0.930 X	0.130	0.930	1.50	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP7-SEP2020	FD	2	Arsenic	8.31	0.130	0.930	1.50	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP7-SEP2020	FD	2	Cadmium	0.355 J	0.0150	0.560	0.930	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP7-SEP2020	FD	2	Cobalt	9.65	0.0540	0.740	1.90	0.766666	mg/Kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-DUP7-SEP2020	FD	2	Selenium	1.30 UJ	0.320	1.30	1.90	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP7-SEP2020	FD	2	Silver	0.740 U	0.0500	0.740	1.90	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-DUP7-SEP2020	FD	2	Thallium	0.170 J	0.160	0.930	2.80	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-SL11A-A-SEP2020	N	2	Antimony	0.550 X	0.110	0.780	1.20	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-SL11A-A-SEP2020	N	2	Arsenic	9.16	0.110	0.780	1.20	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-SL11A-A-SEP2020	N	2	Cadmium	0.354 J	0.0120	0.470	0.780	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-SL11A-A-SEP2020	N	2	Cobalt	10.6	0.0450	0.620	1.60	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-SL11A-A-SEP2020	N	2	Selenium	63.9 J	0.260	1.10	1.60	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-SL11A-A-SEP2020	N	2	Silver	0.100 J	0.0420	0.620	1.60	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-SL11A-A-SEP2020	N	2	Thallium	0.200 J	0.130	0.780	2.30	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-SL11B-A-SEP2020	N	2	Antimony	0.220 J	0.120	0.870	1.40	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-SL11B-A-SEP2020	N	2	Arsenic	7.51	0.120	0.870	1.40	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-SL11B-A-SEP2020	N	2	Cadmium	0.177 J	0.0140	0.520	0.870	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-SL11B-A-SEP2020	N	2	Cobalt	9.95	0.0510	0.700	1.70	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-SL11B-A-SEP2020	N	2	Selenium	1.70 U	0.300	1.70	1.70	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-SL11B-A-SEP2020	N	2	Silver	0.700 U	0.0470	0.700	1.70	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-SL11B-A-SEP2020	N	2	Thallium	0.870 U	0.150	0.870	2.60	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-SL25-A-SEP2020	N	1	Antimony	0.430 U	0.0600	0.430	0.680	0.09	mg/Kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-SL25-A-SEP2020	N	1	Arsenic	8.51	0.0580	0.430	0.680	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-SL25-A-SEP2020	N	1	Cadmium	0.257 J	0.00670	0.260	0.430	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-SL25-A-SEP2020	N	1	Cobalt	7.49	0.0250	0.340	0.850	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-SL25-A-SEP2020	N	1	Selenium	1.30	0.140	0.600	0.850	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-SL25-A-SEP2020	N	1	Thallium	0.430 U	0.0730	0.430	1.30	0.016666	mg/Kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7196/SW3060/NONE	NHFLA-DUP7-SEP2020	FD	1.2	Chromium, Hexavalent	0.250 J	0.170	0.330	0.560	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-SL11A-A-SEP2020	N	1.2	Chromium, Hexavalent	0.340 U	0.170	0.340	0.570	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-SL11B-A-SEP2020	N	1.2	Chromium, Hexavalent	0.350 U	0.170	0.350	0.580	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-SL25-A-SEP2020	N	1.2	Chromium, Hexavalent	0.320 U	0.160	0.320	0.540	0.4	mg/kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7471/METHOD/NONE	NHFLA-DUP7-SEP2020	FD	1	Mercury	0.0310 J	0.00560	0.0180	0.0360	0.033	mg/Kg
SW7471/METHOD/NONE	NHFLA-SL11A-A-SEP2020	N	1	Mercury	0.0350 J	0.00580	0.0190	0.0370	0.033	mg/Kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Automated Data Review Detail Report for SN7689
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Nike BU 51/52 Quality Assurance Project Plan

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8260/SW5035/NONE	NHFLA-DUP7-SEP2020	FD	1	1,2-Dibromo-3-chloropropane	2.60 UJ	1.60	2.60	5.20	5	ug/kg
SW8260/SW5035/NONE	NHFLA-DUP7-SEP2020	FD	1	Carbon disulfide	2.60 UJ	0.810	2.60	5.20	5	ug/kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-DUP7-SEP2020	FD	1	1,2,4,5-Tetrachlorobenzene	270 U	150	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP7-SEP2020	FD	1	2,4-Dichlorophenol	270 U	160	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP7-SEP2020	FD	1	2,4-Dimethylphenol	270 UJ	180	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP7-SEP2020	FD	1	2,4-Dinitrophenol	670 U	410	670	900	820	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP7-SEP2020	FD	1	2,6-Dinitrotoluene	270 U	87.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP7-SEP2020	FD	1	2-Chlorophenol	270 U	180	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP7-SEP2020	FD	1	2-Methylphenol (o-Cresol)	270 U	220	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP7-SEP2020	FD	1	2-Nitroaniline	670 U	82.0	670	900	820	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP7-SEP2020	FD	1	3,3'-Dichlorobenzidine	270 U	120	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP7-SEP2020	FD	1	4,6-Dinitro-2-methylphenol	670 U	370	670	900	820	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP7-SEP2020	FD	1	4-Chloroaniline	270 X	130	270	360	333.333333	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP7-SEP2020	FD	1	Atrazine	180 J	100	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP7-SEP2020	FD	1	Benzyl butyl phthalate	270 U	100	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP7-SEP2020	FD	1	Biphenyl (Diphenyl)	270 U	80.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP7-SEP2020	FD	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	270 U	89.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP7-SEP2020	FD	1	bis(2-Ethylhexyl) phthalate	530 J	110	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP7-SEP2020	FD	1	Carbazole	270 U	120	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP7-SEP2020	FD	1	Dibenzofuran	270 U	87.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP7-SEP2020	FD	1	Diethyl phthalate	270 U	88.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP7-SEP2020	FD	1	Dimethyl phthalate	270 U	86.0	270	360	330	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-DUP7-SEP2020	FD	1	Di-n-butyl phthalate	270 U	110	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP7-SEP2020	FD	1	Di-n-octyl phthalate	270 U	230	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP7-SEP2020	FD	1	Hexachlorobenzene	270 U	90.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP7-SEP2020	FD	1	Hexachlorobutadiene	270 U	91.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP7-SEP2020	FD	1	Hexachlorocyclopentadiene	270 U	90.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP7-SEP2020	FD	1	Hexachloroethane	270 U	100	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP7-SEP2020	FD	1	n-Nitrosodi-n-propylamine	270 U	91.0	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP7-SEP2020	FD	1	n-Nitrosodiphenylamine	270 U	240	270	360	330	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP7-SEP2020	FD	1	Pentachlorophenol	670 U	260	670	900	820	ug/kg
SW8270/SW3550/NONE	NHFLA-DUP7-SEP2020	FD	1	Phenol	270 U	170	270	360	330	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
C	LCS Recovery
D	MS RPD
D3	Field Duplicate RPD
H1	Test Hold Time
H2	Prep Hold Time
I	Surrogate recovery outside project limits.
L	Lab Blank
M	MS Recovery
T	Trip Blank
TR	Trace Level Detect
V	Equipment Blank

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: BNASIM (GC/MS-SIM Analysis by SW8270)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch WG287058 LCS had a low bias for chrysene. Only MS/MSD were run in this batch so qualifications were not required based on this low bias outlier.
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -001 recoveries were biased low for pyrene and chrysene. Sample -001 and -002 (field duplicate) results for these analytes were qualified estimated with J/M flags/reason codes.
Was the MS/MSD RPD within project acceptance limits?		•		Sample -001 MS/MSD RPD's were outliers for multiple analytes. See MS/MSD RPD outlier summary qualifier table for details.
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		ICV and CCV outlier issues noted in case narrative were not addressed as part of this stage 2A validation review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: LYDKHN (Lloyd Kahn Method for the Determination of Total Organic Carbon in Sediment, USEPA Region II Method)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -001 MSD recovery only was biased high as reported in lab SDG. The database recoveries did not match the recoveries noted in the lab report (124%/138% in SDG and 114%/121% in FUDSChem). The SDG recoveries were used to qualify field results. Field samples -001 and -002 (field duplicate) were qualified estimated with J/M flag/reason codes.
Was the MS/MSD RPD within project acceptance limits?	•			
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW6010 (Trace Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		Prep blank PBSNI16ICS2 had detections below the LOD for barium, chromium, iron, magnesium, nickel, potassium, selenium, sodium, zinc (calcium detected and reanalyzed in different batch). Samples -001 and -002 SODIUM and samples -002, -004 SELENIUM results were qualified non-detect at LOD with U/L flags/reason codes.
Were target analytes in the field blank less than MDL?		•		Equipment blank aqueous matrix detections were not used to qualify soil sample results.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -001 MS/MSD recoveries were outliers biased low for chromium and antimony. MS or MSD but not both were outliers biased high for beryllium, lead, potassium. MS recoveries were not considered statistically reliable due to 4X rule so were not used to qualify results for aluminum, calcium, copper, iron, magnesium manganese, selenium, zinc. Field sample -001 and -002 (field duplicate) results were qualified estimated with J/M+ flags/reason codes for beryllium, lead and potassium and biased low for chromium with J/M flag/reason codes and considered unusable with rejected X/M flags/reason codes for antimony.
Was the MS/MSD RPD within project acceptance limits?		•		Sample -001 MS/MSD RPD was outlier for magnesium. Samples -001 and -002 (field duplicate) magnesium results were qualified estimated. NOTE: qualification based on lab SDG QC data, database values do not reconcile with lab report.
Were the post spike recoveries within project acceptance limits?		•		According to the lab SDG case narrative sample -001 PDS recoveries were outliers for barium, copper, selenium, zinc. However the batch QC data was not provided so qualifications were not applied based on these case narrative notes alone . PDS outliers for aluminum, calcium, iron, magnesium, manganese were all subject to 4X rule so were not used to qualify results.
Were the serial dilution RPD values within project acceptance limits?		•		Sample -001 SD responses were outliers for copper, iron, magnesium, manganese, selenium, zinc according to the lab SDG case narrative notes only (batch data not provided) so qualifications were not applied based on these notes alone.

Review Questions

Method: SW6010 (Trace Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry)				
Review Questions	Yes	No	NA	Comment
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?		•		Sample -001 and its field duplicate -002 RPD's were outliers for chromium, copper and selenium so were qualified as estimated with J/D3 flags/reason codes. NOTE: Selenium is not identified as an outlier in FUDSChem table due to result below LOD in sample -002 but qualification was required.
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Serial dilution and PDS case narrative outlier comments were not supported in the batch QC data and CCB detection for magnesium was not addressed as part of this stage 2A validation review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data recommended for rejection (exclusion) in the data validation process?	•			Antimony results for samples -001 and -002 due to MS recovery low bias.

Review Questions

Method: SW6020 (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch PBWN122IMW2 method blank had detections above the LOD for barium, copper, manganese, zinc. Field sample -005 copper and manganese results were qualified as non-detect at LOD with U/L flag/reason codes. Method blank detections below LOD for aluminum, antimony, beryllium, cadmium, chromium, cobalt, iron, lead, magnesium, nickel, selenium, sodium, thallium, vanadium resulted in qualification for aluminum, chromium, iron, magnesium, sodium, vanadium as non-detect at the LOD with U/L flag/reason codes for sample -005.
Were target analytes in the field blank less than MDL?		•		Equipment blank had detections below the LOD for aluminum, chromium, copper, iron, magnesium, manganese, potassium, sodium, vanadium. These detections were not used to qualify soil sample results.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?	•			
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW7196 (Chromium, Hexavalent (Colorimetric))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG286201 had detection below LOD. Sample -005 qualified as non-detect at LOD with U/L flag/reason code.
Were target analytes in the field blank less than MDL?		•		See above for equipment blank detection that was qualified based on prep blank detection. Equipment blank aqueous matrix detections were not used to qualify soil field samples.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			MS only
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW7470 (Mercury in Liquid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?	•			
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW7471 (Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW8082 (Polychlorinated Biphenyls (PCB))

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?		•		COC and LAB REPORT SDG included PCB results as requested but FUDSChem databse did not include the PCB data for aqueous sample -005 (equipment blank). See below for qualifications for sample -005 that could not be applied to database.
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		Water matrix QC batch did not include MS recovery data.
Were MS/MSD recoveries within project acceptance limits?	•			Soil batch.
Was the MS/MSD RPD within project acceptance limits?	•			
Were surrogate recoveries within project acceptance limits?		•		One of two surrogates were outliers biased low in field sample -002 and equipment blank -005. Samples -002 and -005 results should be considered estimated and qualified with UJ/I flags/reason codes. NOTE: Sample -005 results were not in database so could not be qualified as noted above.
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW8260 (Volatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			Removed qualifiers and reason codes for samples -01RA2 and -03RA since both were analyzed on the 14th day from sample collection.
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Sample -002 had 1 of 4 surrogate recoveries biased low so all results were qualified as estimated with UJ/I flags/reason codes.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch method blank WG286428-2 had a detection below the LOD for methylene chloride. Field samples -006, -007, -005 results for this analyte were qualified non-detect at the LOD with U/L flags/reason codes.
Were target analytes in the field blank less than MDL?		•		Equipment blank had detections below the LOD for methylene chloride and toluene and trip blanks -006 and -007 had detections below LOD for methylene chloride.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -001 recoveries were biased low for MS and MSD for 1,2,4-trichlorobenzene and 1,2,3-trichlorobenzene and MS or MSD but not both biased low for 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene. These results in both samples -001 and -002(field duplicate) were qualified with UJ/M flags/reason codes.
Was the MS/MSD RPD within project acceptance limits?		•		Sample -001 MS/MSD RPD's were outliers for most target analytes so these results in samples -001 and -002 (field duplicate) were qualified estimated with UJ/D flags/reason codes.
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		ICAL outlier issues noted in case narrative were not addressed as part of this stage 2A validation review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW8270 (Semivolatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?		•		Sample -005 (equipment blank) re-extraction was performed outside of project required holding times so these results would be considered estimated and qualified with UJ/J flags.
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		QC batch WG286216 method blank and LCS surrogate recoveries were biased low and below 10% for at least 2 of 3 acid fraction surrogates. Qualification of field results was not required based on these QC sample surrogate recovery outliers.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG286216 had a detection above the LOQ for bis-2-ethylhexylphthalate and QC batch WG286208 had a detection below the LOQ for the same analyte. Field samples -002, -003, -005 bis-2-ethylhexylphthalate results were qualified as estimated with J/L flag/reason codes.
Were target analytes in the field blank less than MDL?		•		Equipment blank original run had detections below the LOD for diethylphthalate and above the LOQ for bis-2-ethylhexylphthalate and equipment blank re-analysis had detections below the LOD for caprolactam and diethylphthalate. Soil sample field results were not qualified based on these aqueous matrix equipment blank detections.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only

Review Questions

Method: SW8270 (Semivolatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch WG286216 recoveries were biased high for benzaldehyde and bis-2-ethylhexylphthalate and biased low and below 10% for most of the acid fraction analytes. Equipment blank sample -005 results for bis-2-ethylhexylphthalate were qualified as estimated with J/C+ flag/reason codes and acid fraction results were qualified as unusable with X/C flags reason codes with the exception of the methylphenols and 4-chloro-3-methylphenol with were qualified estimated with UJ/C flags reason codes. QC batch WG286966 equipment blank re-analysis batch had a high bias for benzaldehyde only so these results were not qualified based on this high bias QC outlier. QC batch WG286208 had low bias recoveries for 4-chloroaniline and 0% recovery for atrazine and high bias recoveries for benzaldehyde and 3,3-dichlorobenzidene. Field samples -001, -002, -003, -004 4-chloroaniline results were qualified estimated with UJ/C flags/reason codes. Atrazine was qualified unusable/rejected in sample -004 with X/C flags/reason codes and qualified estimated with J/C flags/reason codes in samples -001, -002, -003. QC batch WG287057 low bias for benzaldehyde and high bias for caprolactam were associated with MS/MSD QC samples only so qualifications were not applied based on these LCS recovery outliers.
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -001 recoveries were outliers biased low and less than 10% (0% recovery) for 4-chloroaniline, biased low but above rejection criteria for 3-nitroanline and bis-2-ethylhexylphthalate, biased low for MS or MSD but not both for 2,4-dimethylphenol and caprolactam and biased high for benzaldehyde. Field samples -001 and -002(field duplicate) results were qualified as unusable for 4-chloroaniline with X/M/C qualifiers and estimated with UJ/M flags for caprolactam, 2,4-dimethylpheno. and 3-nitroaniline and estimated with J/M flags for bis- 2-ethylhexylphthalate.
Was the MS/MSD RPD within project acceptance limits?		•		Sample -001 MS/MSD RPD were outliers for 2,4 -dimethylphenol. Sample -001 and -002 (field duplicate) results for this analyte were qualified estimated.
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			ICAL, ICV and CCV outlier issues noted in case narrative were not addressed as part of this stage 2A validation review.
Were DoD QSM corrective actions followed if deviations were noted?		•		

Review Questions

Method: SW8270 (Semivolatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Were any data recommended for rejection (exclusion) in the data validation process?	•			Sample -005 acid fraction analytes (most) based on LCS recovery low bias. Sample -004 atrazine results based on LCS recovery low bias. Samples -001 and -002 4-chloroaniline results based on MS recovery low bias.

Review Questions

Method: SW9045 (Soil pH)

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?			•	
Were target analytes in the method blank less than MDL?			•	
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	SN7764
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Katahdin Analytical Services, Westbrook, ME
Data Review Contractor:	CADENA
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	November 12, 2020 - Re-submitted January 25, 2021 based on re-evaluation using Stage 2A criteria.

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	BNASIM	SW6010	SW6020	SW7196	SW7470	SW7471
NHFLA-BH36-A-SEP2020	SN7764-11	Soil	Field Sample/N	X	X		X		X
NHFLA-BH36-B-SEP2020	SN7764-12	Soil	Field Sample/N	X	X		X		X
NHFLA-BH41-A-SEP2020	SN7764-9	Soil	Field Sample/N	X	X		X		X
NHFLA-BH41-B-SEP2020	SN7764-10	Soil	Field Sample/N	X	X		X		X
NHFLA-BH42-A-SEP2020	SN7764-1	Soil	Field Sample/N	X	X		X		X
NHFLA-BH42-B-SEP2020	SN7764-2	Soil	Field Sample/N	X	X		X		X
NHFLA-BH43-A-SEP2020	SN7764-5	Soil	Field Sample/N	X	X		X		X
NHFLA-BH43-B-SEP2020	SN7764-6	Soil	Field Sample/N	X	X		X		X
NHFLA-BH47-A-SEP2020	SN7764-3	Soil	Field Sample/N	X	X		X		X
NHFLA-BH47-B-SEP2020	SN7764-4	Soil	Field Sample/N	X	X		X		X
NHFLA-BH48-A-SEP2020	SN7764-7	Soil	Field Sample/N	X	X		X		X
NHFLA-BH48-B-SEP2020	SN7764-8	Soil	Field Sample/N	X	X		X		X
NHFLA-BH50-A-SEP2020	SN7764-13	Soil	Field Sample/N	X	X		X		X
NHFLA-BH50-B-SEP2020	SN7764-14	Soil	Field Sample/N	X	X		X		X
NHFLA-EB15-SEP2020	SN7764-15	Water	Equipment Blank/EB	X		X	X	X	

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Katahdin Analytical Services, Westbrook, ME and were reported under sample delivery group (SDG) SN7764. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Extracted Internal Standard
- Lab Blank
- LCS Recovery
- LCS RPD
- MS Recovery
- Prep Hold Time
- Surrogate
- Test Hold Time

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 12 results (1.95%) out of the 615 results (sample and field QC samples) reported are qualified based on review and 0 results (0.00%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

NOTE: Validation report re-issued based on stage 2A review question. Original report was inadvertently generated using Stage 2B criteria.

Analytical Method	Data Reviewer Comment
BNASIM	No additional comments; see Checklist for detail.
SW6010	No additional comments; see Checklist for detail.
SW6020	No additional comments; see Checklist for detail.
SW7196	No additional comments; see Checklist for detail.
SW7470	No additional comments; see Checklist for detail.
SW7471	No additional comments; see Checklist for detail.

Jim Tomalia

January 25, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method SW6010, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBSNI22ICS1 (LB)/ PBSNI22ICS1	Nickel	0.05800	< 0.044	< 1	mg/kg	U/None	L	
PBSNI22ICS1 (LB)/ PBSNI22ICS1	Chromium	0.09600	< 0.026	< 1	mg/kg	U/None	L	
PBSNI22ICS1 (LB)/ PBSNI22ICS1	Magnesium	1.100	< 0.68	< 10	mg/kg	U/None	L	
PBSNI22ICS1 (LB)/ PBSNI22ICS1	Aluminum	1.800	< 0.71	< 30	mg/kg	U/None	L	
PBSNI22ICS1 (LB)/ PBSNI22ICS1	Calcium	2.000	< 1.8	< 10	mg/kg	U/None	L	
PBSNI22ICS1 (LB)/ PBSNI22ICS1	Sodium	2.400	< 1.5	< 100	mg/kg	U/None	L	
PBSNI22ICS1 (LB)/ PBSNI22ICS1	Iron	2.500	< 1.4	< 10	mg/kg	U/None	L	
PBSNI22ICS1 (LB)/ PBSNI22ICS1	Potassium	7.700	< 2.9	< 100	mg/kg	U/None	L	
PBSNI24ICS1 (LB)/ PBSNI24ICS1	Vanadium	0.06400	< 0.037	< 1	mg/kg	U/None	L	
PBSNI24ICS1 (LB)/ PBSNI24ICS1	Chromium	0.09600	< 0.026	< 1	mg/kg	U/None	L	
PBSNI24ICS1 (LB)/ PBSNI24ICS1	Arsenic	0.1200	< 0.068	< 0.8	mg/kg	U/None	L	
PBSNI24ICS1 (LB)/ PBSNI24ICS1	Antimony	0.1600	< 0.07	< 0.8	mg/kg	U/None	L	
PBSNI24ICS1 (LB)/ PBSNI24ICS1	Aluminum	0.7700	< 0.71	< 30	mg/kg	U/None	L	
PBSNI24ICS1 (LB)/ PBSNI24ICS1	Magnesium	0.8900	< 0.68	< 10	mg/kg	U/None	L	
PBSNI24ICS1 (LB)/ PBSNI24ICS1	Sodium	1.900	< 1.5	< 100	mg/kg	U/None	L	
PBSNI24ICS1 (LB)/ PBSNI24ICS1	Iron	2.000	< 1.4	< 10	mg/kg	U/None	L	
PBSNI24ICS1 (LB)/ PBSNI24ICS1	Calcium	2.600	< 1.8	< 10	mg/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-BH50-A-SEP2020	N	Antimony	0.950	0.600 J	0.600 U		mg/kg	L
NHFLA-BH50-B-SEP2020	N	Antimony	0.750	0.590 J	0.750 U		mg/kg	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB15-SEP2020 (EB)/ SN7764-15	Beryllium	0.04200	< 0.034	< 1	ug/l	U/None	V	
NHFLA-EB15-SEP2020 (EB)/ SN7764-15	Cobalt	0.07000	< 0.06	< 1	ug/l	U/None	V	
NHFLA-EB15-SEP2020 (EB)/ SN7764-15	Chromium	0.5200	< 0.22	< 5	ug/l	U/None	V	
NHFLA-EB15-SEP2020 (EB)/ SN7764-15	Lead	0.7850	< 0.075	< 1	ug/l	U/None	V	
NHFLA-EB15-SEP2020 (EB)/ SN7764-15	Vanadium	1.700	< 0.5	< 5	ug/l	U/None	V	
NHFLA-EB15-SEP2020 (EB)/ SN7764-15	Aluminum	149.0	< 4.4	< 100	ug/l	U/None	V	
NHFLA-EB15-SEP2020 (EB)/ SN7764-15	Iron	19.00	< 13	< 100	ug/l	U/None	V	
NHFLA-EB15-SEP2020 (EB)/ SN7764-15	Potassium	2320	< 31	< 1000	ug/l	U/None	V	
NHFLA-EB15-SEP2020 (EB)/ SN7764-15	Calcium	43800	< 21	< 100	ug/l	U/None	V	
NHFLA-EB15-SEP2020 (EB)/ SN7764-15	Copper	7.550	< 0.19	< 3	ug/l	U/None	V	
NHFLA-EB15-SEP2020 (EB)/ SN7764-15	Sodium	81000	< 19	< 1000	ug/l	U/None	V	
NHFLA-EB15-SEP2020 (EB)/ SN7764-15	Magnesium	8820	< 8	< 100	ug/l	U/None	V	
NHFLA-EB15-SEP2020 (EB)/ SN7764-15	Nickel	9.350	< 0.15	< 2	ug/l	U/None	V	
NHFLA-EB15-SEP2020 (EB)/ SN7764-15	Barium	0.3700	< 0.27	< 2	ug/l	U/None	V	
NHFLA-EB15-SEP2020 (EB)/ SN7764-15	Manganese	0.6200	< 0.35	< 2	ug/l	U/None	V	
NHFLA-EB15-SEP2020 (EB)/ SN7764-15	Zinc	5.400	< 3.9	< 10	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Silver	0.08300	< 0.05	< 1	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Cadmium	0.2200	< 0.03	< 1	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Beryllium	0.2200	< 0.034	< 1	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Cobalt	0.3900	< 0.061	< 1	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Antimony	0.4500	< 0.054	< 1	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Chromium	0.4600	< 0.22	< 5	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Lead	0.4900	< 0.074	< 1	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Nickel	0.5500	< 0.15	< 2	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Vanadium	0.7900	< 0.51	< 5	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Copper	0.8000	< 0.18	< 3	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Selenium	0.8200	< 0.19	< 5	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Aluminum	13.00	< 4.4	< 100	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Iron	19.00	< 13	< 100	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Calcium	21.00	< 20	< 100	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Magnesium	23.00	< 7.8	< 100	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Sodium	75.00	< 19	< 1000	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Thallium	0.1500	< 0.061	< 1	ug/l	U/None	L	
PBWNJ02IMW2 (LB)/ PBWNJ02IMW2	Manganese	0.5600	< 0.35	< 2	ug/l	U/None	L	
PBWNJ02IMW2 (LB)/ PBWNJ02IMW2	Barium	1.400	< 0.27	< 2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB15-SEP2020	EB	Beryllium	1.00	0.0420 J	0.200 U		ug/l	L
NHFLA-EB15-SEP2020	EB	Chromium	5.00	0.520 J	4.00 U		ug/l	L
NHFLA-EB15-SEP2020	EB	Cobalt	1.00	0.0700 J	0.300 U		ug/l	L
NHFLA-EB15-SEP2020	EB	Iron	100	19.0 J	60.0 U		ug/l	L

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB15-SEP2020	EB	Lead	1.00	0.785 J	1.00 U		ug/l	L
NHFLA-EB15-SEP2020	EB	Vanadium	5.00	1.70 J	4.00 U		ug/l	L
NHFLA-EB15-SEP2020	EB	Barium	2.00	0.370 JB	1.00 U		ug/l	L
NHFLA-EB15-SEP2020	EB	Manganese	2.00	0.620 J	1.00 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB15-SEP2020 (EB)/ SN7764-15	Chromium, Hexavalent	0.007000	< 0.00076	< 0.025	mg/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7196, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG286394-1 (LB)/ WG286394-1	Chromium, Hexavalent	0.002700	< 0.00076	< 0.025	mg/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB15-SEP2020	EB	Chromium, Hexavalent	0.0250	0.00700 J	0.0125 U		mg/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-BH42-A-SEP2020 (MS)/ WG287062-3	Chromium, Hexavalent	58.08	84 - 110	30 - 125	percent	J/UJ	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-BH42-A-SEP2020	N	Chromium, Hexavalent	0.690	0.410 U	0.410 UJ		mg/kg	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-BH36-A-SEP2020 (N)/ SN7764-11		8.830	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-BH36-B-SEP2020 (N)/ SN7764-12		8.820	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-BH41-A-SEP2020 (N)/ SN7764-9		8.890	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-BH41-B-SEP2020 (N)/ SN7764-10		8.880	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-BH42-A-SEP2020 (N)/ SN7764-1		8.960	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-BH42-A-SEP2020 (N)/ WG287062-3		8.960	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-BH42-B-SEP2020 (N)/ SN7764-2		8.950	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-BH43-A-SEP2020 (N)/ SN7764-5		8.860	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-BH43-B-SEP2020 (N)/ SN7764-6		8.850	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-BH47-A-SEP2020 (N)/ SN7764-3		9.080	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-BH47-B-SEP2020 (N)/ SN7764-4		9.070	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-BH48-A-SEP2020 (N)/ SN7764-7		9.040	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-BH48-B-SEP2020 (N)/ SN7764-8		9.030	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-BH50-A-SEP2020 (N)/ SN7764-13		9.010	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-BH50-B-SEP2020 (N)/ SN7764-14		9.000	< 1	< 2	days	J/X	H1	Test Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7470, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB15-SEP2020 (EB)/ SN7764-15	Mercury	0.01400	< 0.013	< 0.2	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Table of All Qualified Results

Test Method: SW6010	**Extraction Method: SW3050**							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-BH50-A-SEP2020	N	Antimony	0.950	0.600 J	0.600 U		mg/kg	L
NHFLA-BH50-B-SEP2020	N	Antimony	0.750	0.590 J	0.750 U		mg/kg	L

Test Method: SW6020	**Extraction Method: SW3010**							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB15-SEP2020	EB	Beryllium	1.00	0.0420 J	0.200 U		ug/l	L
NHFLA-EB15-SEP2020	EB	Chromium	5.00	0.520 J	4.00 U		ug/l	L
NHFLA-EB15-SEP2020	EB	Cobalt	1.00	0.0700 J	0.300 U		ug/l	L
NHFLA-EB15-SEP2020	EB	Iron	100	19.0 J	60.0 U		ug/l	L
NHFLA-EB15-SEP2020	EB	Lead	1.00	0.785 J	1.00 U		ug/l	L
NHFLA-EB15-SEP2020	EB	Vanadium	5.00	1.70 J	4.00 U		ug/l	L
NHFLA-EB15-SEP2020	EB	Barium	2.00	0.370 JB	1.00 U		ug/l	L
NHFLA-EB15-SEP2020	EB	Manganese	2.00	0.620 J	1.00 U		ug/l	L

Test Method: SW7196	**Extraction Method: NONE**							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB15-SEP2020	EB	Chromium, Hexavalent	0.0250	0.00700 J	0.0125 U		mg/l	L

Test Method: SW7196	**Extraction Method: SW3060**							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-BH42-A-SEP2020	N	Chromium, Hexavalent	0.690	0.410 U	0.410 UJ		mg/kg	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-BH36-A-SEP2020	N	Sodium	220	112 J	112 U	112 J	TR
NHFLA-BH36-B-SEP2020	N	Sodium	120	49.1 J	49.1 U	49.1 J	TR
NHFLA-BH41-A-SEP2020	N	Sodium	120	67.2 J	67.2 U	67.2 J	TR
NHFLA-BH41-B-SEP2020	N	Sodium	180	111 J	111 U	111 J	TR
NHFLA-BH42-A-SEP2020	N	Sodium	110	53.1 J	53.1 U	53.1 J	TR
NHFLA-BH42-B-SEP2020	N	Sodium	180	60.8 J	60.8 U	60.8 J	TR
NHFLA-BH43-A-SEP2020	N	Sodium	130	61.2 J	61.2 U	61.2 J	TR
NHFLA-BH43-B-SEP2020	N	Sodium	120	68.5 J	68.5 U	68.5 J	TR
NHFLA-BH47-A-SEP2020	N	Sodium	120	81.7 J	81.7 U	81.7 J	TR
NHFLA-BH47-B-SEP2020	N	Sodium	230	109 J	109 U	109 J	TR
NHFLA-BH48-A-SEP2020	N	Sodium	120	60.7 J	60.7 U	60.7 J	TR
NHFLA-BH48-B-SEP2020	N	Sodium	110	89.6 J	89.6 U	89.6 J	TR
NHFLA-BH50-A-SEP2020	N	Sodium	120	72.9 J	72.9 U	72.9 J	TR
NHFLA-BH50-B-SEP2020	N	Sodium	94.0	59.9 J	59.9 U	59.9 J	TR

Modified Qualifiers for test method SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-BH36-A-SEP2020	N	Chromium, Hexavalent	0.610	0.360 U	0.360 X	0.360 U	
NHFLA-BH36-B-SEP2020	N	Chromium, Hexavalent	1.20	0.730 U	0.730 X	0.730 U	
NHFLA-BH41-A-SEP2020	N	Chromium, Hexavalent	1.30	0.780 U	0.780 X	0.780 U	
NHFLA-BH41-B-SEP2020	N	Chromium, Hexavalent	0.550	0.330 U	0.330 X	0.330 U	
NHFLA-BH42-A-SEP2020	N	Chromium, Hexavalent	0.690	0.410 U	0.410 X	0.410 UJ	M
NHFLA-BH42-B-SEP2020	N	Chromium, Hexavalent	0.580	0.420 J	0.420 J	0.420 J	TR
NHFLA-BH43-A-SEP2020	N	Chromium, Hexavalent	0.670	0.400 U	0.400 X	0.400 U	
NHFLA-BH43-B-SEP2020	N	Chromium, Hexavalent	0.610	0.370 U	0.370 X	0.370 U	
NHFLA-BH47-A-SEP2020	N	Chromium, Hexavalent	0.620	0.370 U	0.370 X	0.370 U	
NHFLA-BH47-B-SEP2020	N	Chromium, Hexavalent	0.560	0.330 U	0.330 X	0.330 U	
NHFLA-BH48-A-SEP2020	N	Chromium, Hexavalent	0.630	0.380 U	0.380 X	0.380 U	
NHFLA-BH48-B-SEP2020	N	Chromium, Hexavalent	0.520	0.230 J	0.230 J	0.230 J	TR
NHFLA-BH50-A-SEP2020	N	Chromium, Hexavalent	0.660	0.390 U	0.390 X	0.390 U	
NHFLA-BH50-B-SEP2020	N	Chromium, Hexavalent	0.590	0.350 J	0.350 J	0.350 J	TR

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Automated Data Review Detail Report for SN7764
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Rejected Results

--No Records Found--

Automated Data Review Detail Report for SN7764
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
SW6010/SW3050/NONE	14	88
SW7196/SW3060/NONE	14	14
SW7471/METHOD/NONE	13	13

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-BH36-A-SEP2020	N	2	Antimony	1.10 U	0.160	1.10	1.80	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH36-A-SEP2020	N	2	Arsenic	7.29	0.150	1.10	1.80	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH36-A-SEP2020	N	2	Cadmium	0.345 J	0.0180	0.670	1.10	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH36-A-SEP2020	N	2	Cobalt	7.97	0.0650	0.900	2.20	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH36-A-SEP2020	N	1	Selenium	0.870 J	0.190	0.790	1.10	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH36-A-SEP2020	N	2	Silver	0.900 U	0.0610	0.900	2.20	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH36-A-SEP2020	N	2	Thallium	1.10 U	0.190	1.10	3.40	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH36-B-SEP2020	N	1	Antimony	0.210 J	0.0830	0.600	0.950	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH36-B-SEP2020	N	1	Arsenic	7.19	0.0810	0.600	0.950	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH36-B-SEP2020	N	1	Cadmium	0.615	0.00940	0.360	0.600	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH36-B-SEP2020	N	1	Cobalt	7.79	0.0350	0.480	1.20	0.766666	mg/Kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-BH36-B-SEP2020	N	1	Selenium	1.40	0.200	0.830	1.20	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH36-B-SEP2020	N	1	Thallium	0.600 U	0.100	0.600	1.80	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH41-A-SEP2020	N	1	Antimony	0.630 U	0.0880	0.630	1.00	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH41-A-SEP2020	N	1	Arsenic	9.31	0.0860	0.630	1.00	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH41-A-SEP2020	N	1	Cadmium	0.455 J	0.00990	0.380	0.630	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH41-A-SEP2020	N	1	Cobalt	6.50	0.0360	0.500	1.20	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH41-A-SEP2020	N	1	Selenium	1.60	0.210	0.880	1.20	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH41-A-SEP2020	N	1	Thallium	0.630 U	0.110	0.630	1.90	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH41-B-SEP2020	N	2	Antimony	0.880 U	0.120	0.880	1.40	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH41-B-SEP2020	N	2	Arsenic	9.87	0.120	0.880	1.40	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH41-B-SEP2020	N	2	Cadmium	0.294 J	0.0140	0.530	0.880	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH41-B-SEP2020	N	2	Cobalt	7.98	0.0510	0.700	1.80	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH41-B-SEP2020	N	1	Selenium	0.680 J	0.150	0.620	0.880	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH41-B-SEP2020	N	2	Silver	0.700 U	0.0480	0.700	1.80	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH41-B-SEP2020	N	2	Thallium	0.420 J	0.150	0.880	2.60	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH42-A-SEP2020	N	1	Antimony	0.0840 J	0.0800	0.570	0.910	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH42-A-SEP2020	N	1	Arsenic	9.63	0.0780	0.570	0.910	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH42-A-SEP2020	N	1	Cadmium	0.447 J	0.00900	0.340	0.570	0.119999	mg/Kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-BH42-A-SEP2020	N	1	Cobalt	7.60	0.0330	0.460	1.10	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH42-A-SEP2020	N	1	Selenium	1.70	0.190	0.800	1.10	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH42-A-SEP2020	N	1	Thallium	0.570 U	0.0980	0.570	1.70	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH42-B-SEP2020	N	2	Antimony	0.580 J	0.130	0.930	1.50	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH42-B-SEP2020	N	2	Arsenic	15.7	0.130	0.930	1.50	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH42-B-SEP2020	N	2	Cadmium	0.894 J	0.0150	0.560	0.930	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH42-B-SEP2020	N	2	Cobalt	13.0	0.0540	0.740	1.80	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH42-B-SEP2020	N	2	Selenium	2.00	0.320	1.30	1.80	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH42-B-SEP2020	N	2	Silver	0.740 U	0.0500	0.740	1.80	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH42-B-SEP2020	N	2	Thallium	0.280 J	0.160	0.930	2.80	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH43-A-SEP2020	N	1	Antimony	0.220 J	0.0920	0.660	1.00	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH43-A-SEP2020	N	1	Arsenic	11.2	0.0900	0.660	1.00	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH43-A-SEP2020	N	1	Cadmium	0.577 J	0.0100	0.400	0.660	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH43-A-SEP2020	N	1	Cobalt	9.29	0.0380	0.530	1.30	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH43-A-SEP2020	N	1	Selenium	1.90	0.220	0.920	1.30	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH43-A-SEP2020	N	1	Thallium	0.660 U	0.110	0.660	2.00	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH43-B-SEP2020	N	1	Antimony	0.610 U	0.0850	0.610	0.980	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH43-B-SEP2020	N	1	Arsenic	11.6	0.0830	0.610	0.980	0.226666	mg/Kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-BH43-B-SEP2020	N	1	Cadmium	0.525 J	0.00960	0.360	0.610	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH43-B-SEP2020	N	1	Cobalt	9.91	0.0350	0.490	1.20	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH43-B-SEP2020	N	1	Selenium	1.30	0.210	0.850	1.20	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH43-B-SEP2020	N	1	Thallium	0.610 U	0.100	0.610	1.80	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH47-A-SEP2020	N	1	Antimony	0.620 U	0.0860	0.620	0.980	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH47-A-SEP2020	N	1	Arsenic	16.4	0.0840	0.620	0.980	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH47-A-SEP2020	N	1	Cadmium	0.956	0.00970	0.370	0.620	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH47-A-SEP2020	N	1	Cobalt	9.92	0.0360	0.490	1.20	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH47-A-SEP2020	N	1	Selenium	2.00	0.210	0.860	1.20	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH47-A-SEP2020	N	1	Thallium	0.620 U	0.110	0.620	1.80	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH47-B-SEP2020	N	2	Antimony	0.590 J	0.160	1.20	1.80	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH47-B-SEP2020	N	2	Arsenic	17.6	0.160	1.20	1.80	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH47-B-SEP2020	N	2	Cadmium	1.60	0.0180	0.690	1.20	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH47-B-SEP2020	N	2	Cobalt	14.6	0.0670	0.920	2.30	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH47-B-SEP2020	N	2	Selenium	2.20 J	0.390	1.60	2.30	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH47-B-SEP2020	N	2	Silver	0.920 U	0.0620	0.920	2.30	1.4	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH47-B-SEP2020	N	2	Thallium	1.20 J	0.200	1.20	3.50	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH48-A-SEP2020	N	1	Antimony	0.140 J	0.0840	0.600	0.960	0.09	mg/Kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-BH48-A-SEP2020	N	1	Arsenic	14.9	0.0820	0.600	0.960	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH48-A-SEP2020	N	1	Cadmium	0.427 J	0.00950	0.360	0.600	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH48-A-SEP2020	N	1	Cobalt	17.5	0.0350	0.480	1.20	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH48-A-SEP2020	N	1	Selenium	1.90	0.200	0.840	1.20	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH48-A-SEP2020	N	1	Thallium	0.600 U	0.100	0.600	1.80	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH48-B-SEP2020	N	1	Antimony	0.540 U	0.0760	0.540	0.870	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH48-B-SEP2020	N	1	Arsenic	10.8	0.0740	0.540	0.870	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH48-B-SEP2020	N	1	Cadmium	0.865	0.00860	0.320	0.540	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH48-B-SEP2020	N	1	Cobalt	13.0	0.0310	0.430	1.10	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH48-B-SEP2020	N	1	Selenium	0.800 J	0.180	0.760	1.10	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH48-B-SEP2020	N	1	Thallium	0.790 J	0.0930	0.540	1.60	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH50-A-SEP2020	N	1	Antimony	0.600 U	0.0830	0.600	0.950	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH50-A-SEP2020	N	1	Arsenic	12.7	0.0810	0.600	0.950	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH50-A-SEP2020	N	1	Cadmium	1.33	0.00940	0.360	0.600	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH50-A-SEP2020	N	1	Cobalt	10.9	0.0350	0.480	1.20	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH50-A-SEP2020	N	1	Selenium	2.36	0.200	0.830	1.20	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH50-A-SEP2020	N	1	Thallium	1.14 J	0.100	0.600	1.80	0.016666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH50-B-SEP2020	N	1	Antimony	0.750 U	0.0660	0.750	0.750	0.09	mg/Kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-BH50-B-SEP2020	N	1	Arsenic	9.33	0.0640	0.470	0.750	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH50-B-SEP2020	N	1	Cadmium	1.77	0.00740	0.280	0.470	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH50-B-SEP2020	N	1	Cobalt	14.0	0.0270	0.380	0.940	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH50-B-SEP2020	N	1	Selenium	1.20	0.160	0.660	0.940	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-BH50-B-SEP2020	N	1	Thallium	0.974 J	0.0810	0.470	1.40	0.016666	mg/Kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7196/SW3060/NONE	NHFLA-BH36-A-SEP2020	N	1.2	Chromium, Hexavalent	0.360 U	0.180	0.360	0.610	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-BH36-B-SEP2020	N	2.5	Chromium, Hexavalent	0.730 U	0.360	0.730	1.20	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-BH41-A-SEP2020	N	2.5	Chromium, Hexavalent	0.780 U	0.390	0.780	1.30	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-BH41-B-SEP2020	N	1.2	Chromium, Hexavalent	0.330 U	0.160	0.330	0.550	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-BH42-A-SEP2020	N	1.2	Chromium, Hexavalent	0.410 UJ	0.200	0.410	0.690	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-BH42-B-SEP2020	N	1.2	Chromium, Hexavalent	0.420 J	0.170	0.350	0.580	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-BH43-A-SEP2020	N	1.2	Chromium, Hexavalent	0.400 U	0.200	0.400	0.670	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-BH43-B-SEP2020	N	1.2	Chromium, Hexavalent	0.370 U	0.180	0.370	0.610	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-BH47-A-SEP2020	N	1.2	Chromium, Hexavalent	0.370 U	0.190	0.370	0.620	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-BH47-B-SEP2020	N	1.2	Chromium, Hexavalent	0.330 U	0.170	0.330	0.560	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-BH48-A-SEP2020	N	1.2	Chromium, Hexavalent	0.380 U	0.190	0.380	0.630	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-BH48-B-SEP2020	N	1.2	Chromium, Hexavalent	0.230 J	0.160	0.310	0.520	0.4	mg/kg
SW7196/SW3060/NONE	NHFLA-BH50-A-SEP2020	N	1.2	Chromium, Hexavalent	0.390 U	0.200	0.390	0.660	0.4	mg/kg

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Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7196/SW3060/NONE	NHFLA-BH50-B-SEP2020	N	1.2	Chromium, Hexavalent	0.350 J	0.180	0.350	0.590	0.4	mg/kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7471/METHOD/NONE	NHFLA-BH36-A-SEP2020	N	1	Mercury	0.0350 J	0.00590	0.0200	0.0380	0.033	mg/Kg
SW7471/METHOD/NONE	NHFLA-BH36-B-SEP2020	N	1	Mercury	0.124	0.00540	0.0180	0.0350	0.033	mg/Kg
SW7471/METHOD/NONE	NHFLA-BH41-A-SEP2020	N	1	Mercury	0.0986	0.00610	0.0200	0.0390	0.033	mg/Kg
SW7471/METHOD/NONE	NHFLA-BH41-B-SEP2020	N	1	Mercury	0.0360	0.00530	0.0170	0.0340	0.033	mg/Kg
SW7471/METHOD/NONE	NHFLA-BH42-A-SEP2020	N	1	Mercury	0.0943	0.00710	0.0230	0.0460	0.033	mg/Kg
SW7471/METHOD/NONE	NHFLA-BH42-B-SEP2020	N	1	Mercury	0.0420	0.00520	0.0170	0.0340	0.033	mg/Kg
SW7471/METHOD/NONE	NHFLA-BH43-A-SEP2020	N	1	Mercury	0.112	0.00580	0.0190	0.0380	0.033	mg/Kg
SW7471/METHOD/NONE	NHFLA-BH43-B-SEP2020	N	1	Mercury	0.0729	0.00590	0.0190	0.0380	0.033	mg/Kg
SW7471/METHOD/NONE	NHFLA-BH47-A-SEP2020	N	1	Mercury	0.102	0.00610	0.0200	0.0390	0.033	mg/Kg
SW7471/METHOD/NONE	NHFLA-BH48-A-SEP2020	N	1	Mercury	0.0707	0.00650	0.0210	0.0420	0.033	mg/Kg
SW7471/METHOD/NONE	NHFLA-BH48-B-SEP2020	N	1	Mercury	0.0380	0.00520	0.0170	0.0340	0.033	mg/Kg
SW7471/METHOD/NONE	NHFLA-BH50-A-SEP2020	N	1	Mercury	0.103	0.00580	0.0190	0.0370	0.033	mg/Kg
SW7471/METHOD/NONE	NHFLA-BH50-B-SEP2020	N	1	Mercury	0.0794	0.00560	0.0180	0.0360	0.033	mg/Kg

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Reason Code Definitions

Code	Definition
H1	Test Hold Time
L	Lab Blank
M	MS Recovery
TR	Trace Level Detect
V	Equipment Blank

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: BNASIM (GC/MS-SIM Analysis by SW8270)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	LCS ONLY
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Case narrative comments for ICV, CCV outliers in 8270D SIM-PAH analysis did not indicate if the issues were resolved.
Were DoD QSM corrective actions followed if deviations were noted?		•		See above for unresolved issues.
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW6010 (Trace Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		Prep blanks had detection below the LOQ in the following QC batches for the metals noted: NI22ICS1 - aluminum, calcium, chromium, iron, magnesium, nickel, potassium, vanadium, sodium. QC batch NI24CS1 - aluminum, antimony, arsenic, calcium, chromium, iron, magnesium, sodium. Antimony results in client samples NHFLA-BH50-A-SEP2020 and NHFLABH50- B-SEP2020 were qualified as non-detect at the LOD with a U flag due to method blank detections.
Were target analytes in the field blank less than MDL?		•		Aqueous equipment blank detections were not used to qualify soil field sample results.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	LCS only
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	Not indicated in laboratory case narrative.
Were the serial dilution RPD values within project acceptance limits?			•	Not indicated in laboratory case narrative.
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW6020 (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch NI23IMW2 prep blank had detections below theLOQ for aluminum, antimony, beryllium, cadmium, calcium,chromium, cobalt, copper, iron, lead, magnesium, nickel,selenium, silver, sodium, thallium, vanadium. Client sample equipment blank results for beryllium, chromium, cobalt, iron,lead, vanadium and manganese were qualified as non-detectat the LOD with U flags due to associated method blank detections. According to the laboratory case narrative barium, manganese and zinc were all outside of acceptance criteria in this original prep blank so sample was reprocessed in the following batch for these metals. QC batchNI2IMW2 had a detection below the LOQ for manganese and above the LOQ for barium - client sample equipment blank results for BARIUM were considered to be non-detect at the LOD and qualified with a U flag due to associated method blank detections.
Were target analytes in the field blank less than MDL?		•		Multiple detections below LOQ and above LOQ for aluminum, calcium, copper, magnesium, nickel, potassium, sodium. This was only aqueous sample in submittal so results were not used to qualify soil field samples.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	LCS only
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	Not indicated in SDG case narrative.
Were the serial dilution RPD values within project acceptance limits?			•	Not indicated in SDG case narrative.
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			

Review Questions

Method: SW6020 (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW7196 (Chromium, Hexavalent (Colorimetric))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG286394 method blank had a detection below the LOQ. Client sample NHFLA-EB15-SEP2020 was qualified as non-detect with a U flag based on the method blank detection.
Were target analytes in the field blank less than MDL?		•		Equipment blank had detection below LOQ. Aqueous equipment blank not used to qualify soil field sample results.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample NHFLA-BH42-A-SEP2020 two MS recoveries were outliers biased low (58% and 16%) so sample was qualified as estimated with M flag. NOTE: sample MS/MSD were re-analyzed on 10/15/2020 with similar recovery outliers so original results were reported.
Was the MS/MSD RPD within project acceptance limits?			•	RPD based on recoveries was 115%. NOTE: Spikes were performed at two significantly different concentration levels (1894mg/kg and 59.97mg/kg) so the assumption is that these were high and low level matrix spikes rather than a spike and spike dup.
Were the post spike recoveries within project acceptance limits?			•	Not indicated in SDG case narrative.
Were the serial dilution RPD values within project acceptance limits?			•	Not indicated in SDG case narrative.
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Case narrative comments associated with with hexavalent chromium analysis outliers were not resolved.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW7470 (Mercury in Liquid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?		•		Equipment blank detection below LOQ was not used to qualify soil field samples
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	Not indicated in case narrative.
Were the serial dilution RPD values within project acceptance limits?			•	Not indicated in case narrative.
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW7471 (Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?		•		Equipment blank detection below the LOQ was not used to qualify soil field samples.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	SN7811
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Katahdin Analytical Services, Westbrook, ME
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	January 26, 2021. Re-submitted on February 11, 2021 for correction of review checklist narration S2AVEM6-method 6010.

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	BNASIM	LYDKHN	SW6010	SW6020	SW7196	SW7470	SW7471	SW8260	SW8270	SW9045
NHFLA-BH37-A-SEP2020	SN7811-9	Soil	Field Sample/N	X		X		X		X			
NHFLA-BH37-B-SEP2020	SN7811-10	Soil	Field Sample/N	X		X		X		X			
NHFLA-BH38-A-SEP2020	SN7811-7	Soil	Field Sample/N	X		X		X		X			
NHFLA-BH38-B-SEP2020	SN7811-8	Soil	Field Sample/N	X		X		X		X			
NHFLA-BH39-A-SEP2020	SN7811-4	Soil	Field Sample/N	X		X		X		X			
NHFLA-BH39-B-SEP2020	SN7811-5	Soil	Field Sample/N	X		X		X		X			
NHFLA-BH40-A-SEP2020	SN7811-1	Soil	Field Sample/N	X		X		X		X			
NHFLA-BH40-B-SEP2020	SN7811-2	Soil	Field Sample/N	X		X		X		X			
NHFLA-DUP10-SEP2020	SN7811-13	Soil	Field Duplicate/FD	X	X	X		X		X	X	X	X
NHFLA-DUP8-SEP2020	SN7811-3	Soil	Field Duplicate/FD	X		X		X		X			
NHFLA-DUP9-SEP2020	SN7811-6	Soil	Field Duplicate/FD	X		X		X		X			
NHFLA-SL26-A-SEP2020	SN7811-15	Soil	Field Sample/N	X	X	X		X		X	X	X	X
NHFLA-SL27-A-SEP2020	SN7811-14	Soil	Field Sample/N	X	X	X		X		X	X	X	X
NHFLA-SL28-A-SEP2020	SN7811-11	Soil	Field Sample/N	X	X	X		X		X	X	X	X
NHFLA-SL31-A-SEP2020	SN7811-12	Soil	Field Sample/N	X	X	X		X		X	X	X	X
NHFLA-EB17-SEP2020	SN7811-16	Water	Equipment Blank/EB	X			X	X	X		X	X	
NHFLA-TB19-SEP2020	SN7811-17	Water	Trip Blank/TB								X		
NHFLA-TB20-SEP2020	SN7811-18	Water	Trip Blank/TB								X		

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Katahdin Analytical Services, Westbrook, ME and were reported under sample delivery group (SDG) SN7811. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Extracted Internal Standard
- Field Duplicate RPD
- Lab Blank
- Lab Replicate RPD
- LCS Recovery
- LCS RPD
- MS Recovery
- MS RPD
- Prep Hold Time
- Surrogate
- Test Hold Time
- Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 148 results (10.77%) out of the 1374 results (sample and field QC samples) reported are qualified based on review and 15 results (1.09%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Hydrazine field sample results and QC are included in this SDG but electronic data is in separate SDG (14383-1). Please reference validation report 14383-1 for data qualification summary.

Analytical Method	Data Reviewer Comment
BNASIM	No additional comments; see Checklist for detail.
LYDKHN	No additional comments; see Checklist for detail.
SW6010	No additional comments; see Checklist for detail.
SW6020	No additional comments; see Checklist for detail.
SW7196	No additional comments; see Checklist for detail.
SW7470	No additional comments; see Checklist for detail.
SW7471	No additional comments; see Checklist for detail.
SW8260	No additional comments; see Checklist for detail.
SW8270	No additional comments; see Checklist for detail.
SW9045	No additional comments; see Checklist for detail.

Jim Tomalia

February 11, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method BNASIM, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG287058-2 (BS)/ WG287058-2	Chrysene	54.42	57 - 118	10 - 118	percent	J/UJ	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-BH37-A-SEP2020	N	Chrysene	25.0	11.0 JL	11.0 J	-	ug/kg	C/TR
NHFLA-BH37-B-SEP2020	N	Chrysene	22.0	4.80 JL	4.80 J	-	ug/kg	C/TR
NHFLA-BH38-A-SEP2020	N	Chrysene	24.0	16.0 JL	16.0 J	-	ug/kg	C/TR
NHFLA-BH38-B-SEP2020	N	Chrysene	23.0	9.20 JL	9.20 J	-	ug/kg	C/TR
NHFLA-BH39-A-SEP2020	N	Chrysene	23.0	17.0 JL	17.0 J	-	ug/kg	C/TR
NHFLA-BH39-B-SEP2020	N	Chrysene	24.0	4.10 JL	4.10 J	-	ug/kg	C/TR
NHFLA-BH40-A-SEP2020	N	Chrysene	23.0	16.0 JL	16.0 J	-	ug/kg	C/TR
NHFLA-BH40-B-SEP2020	N	Chrysene	22.0	11.0 UL	11.0 UJ		ug/kg	C
NHFLA-DUP10-SEP2020	FD	Chrysene	22.0	74.0 L	74.0 J	-	ug/kg	C
NHFLA-DUP8-SEP2020	FD	Chrysene	22.0	2.40 JL	2.40 J	-	ug/kg	C/TR
NHFLA-DUP9-SEP2020	FD	Chrysene	24.0	6.60 JL	6.60 J	-	ug/kg	C/TR
NHFLA-SL26-A-SEP2020	N	Chrysene	23.0	240 L	240 J	-	ug/kg	C
NHFLA-SL27-A-SEP2020	N	Chrysene	22.0	450 L	450 J	-	ug/kg	C
NHFLA-SL28-A-SEP2020	N	Chrysene	23.0	210 L	210 J	-	ug/kg	C
NHFLA-SL31-A-SEP2020	N	Chrysene	23.0	110 L	110 J	-	ug/kg	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method LYDKHN, Prep Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of extraction found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-DUP10-SEP2020 (FD)/ SN7811-13		11.76	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-SL26-A-SEP2020 (N)/ SN7811-15		11.72	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-SL27-A-SEP2020 (N)/ SN7811-14		11.74	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-SL28-A-SEP2020 (N)/ SN7811-11		11.78	< 0	< 0	days	J/X	H2	Prep Exceeds UCL
NHFLA-SL31-A-SEP2020 (N)/ SN7811-12		11.76	< 0	< 0	days	J/X	H2	Prep Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6010, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBSNI24ICS1 (LB)/ PBSNI24ICS1	Vanadium	0.06400	< 0.037	< 1	mg/kg	U/None	L	
PBSNI24ICS1 (LB)/ PBSNI24ICS1	Chromium	0.09600	< 0.026	< 1	mg/kg	U/None	L	
PBSNI24ICS1 (LB)/ PBSNI24ICS1	Arsenic	0.1200	< 0.068	< 0.8	mg/kg	U/None	L	
PBSNI24ICS1 (LB)/ PBSNI24ICS1	Antimony	0.1600	< 0.07	< 0.8	mg/kg	U/None	L	
PBSNI24ICS1 (LB)/ PBSNI24ICS1	Aluminum	0.7700	< 0.71	< 30	mg/kg	U/None	L	
PBSNI24ICS1 (LB)/ PBSNI24ICS1	Magnesium	0.8900	< 0.68	< 10	mg/kg	U/None	L	
PBSNI24ICS1 (LB)/ PBSNI24ICS1	Sodium	1.900	< 1.5	< 100	mg/kg	U/None	L	
PBSNI24ICS1 (LB)/ PBSNI24ICS1	Iron	2.000	< 1.4	< 10	mg/kg	U/None	L	
PBSNI24ICS1 (LB)/ PBSNI24ICS1	Calcium	2.600	< 1.8	< 10	mg/kg	U/None	L	
PBSNI25ICS1 (LB)/ PBSNI25ICS1	Chromium	0.05100	< 0.026	< 1	mg/kg	U/None	L	
PBSNI25ICS1 (LB)/ PBSNI25ICS1	Nickel	0.05100	< 0.044	< 1	mg/kg	U/None	L	
PBSNI25ICS1 (LB)/ PBSNI25ICS1	Zinc	0.2200	< 0.17	< 2	mg/kg	U/None	L	
PBSNI25ICS1 (LB)/ PBSNI25ICS1	Magnesium	1.100	< 0.68	< 10	mg/kg	U/None	L	
PBSNI25ICS1 (LB)/ PBSNI25ICS1	Iron	1.600	< 1.4	< 10	mg/kg	U/None	L	
PBSNI25ICS1 (LB)/ PBSNI25ICS1	Calcium	2.700	< 1.8	< 10	mg/kg	U/None	L	
PBSNI25ICS1 (LB)/ PBSNI25ICS1	Sodium	2.900	< 1.5	< 100	mg/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-BH37-A-SEP2020	N	Antimony	0.980	0.560 J	0.610 U		mg/kg	L
NHFLA-BH37-A-SEP2020	N	Sodium	120	49.4 J	61.0 U		mg/kg	L
NHFLA-BH37-B-SEP2020	N	Antimony	1.60	0.260 J	1.00 U		mg/kg	L
NHFLA-BH37-B-SEP2020	N	Sodium	200	80.2 J	100 U		mg/kg	L
NHFLA-BH38-A-SEP2020	N	Antimony	1.80	0.380 J	1.10 U		mg/kg	L
NHFLA-BH38-A-SEP2020	N	Sodium	230	32.0 J	110 U		mg/kg	L
NHFLA-BH38-B-SEP2020	N	Antimony	1.70	0.480 J	1.10 U		mg/kg	L
NHFLA-BH38-B-SEP2020	N	Sodium	220	55.9 J	110 U		mg/kg	L

Qualified Results associated with the Lab Blank for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-BH39-A-SEP2020	N	Antimony	1.80	0.810 JN	1.10 UJ		mg/kg	L/M
NHFLA-BH39-A-SEP2020	N	Sodium	220	39.9 J	110 U		mg/kg	L
NHFLA-BH39-B-SEP2020	N	Antimony	2.00	0.180 J	1.20 U		mg/kg	L
NHFLA-BH39-B-SEP2020	N	Sodium	240	48.0 J	120 U		mg/kg	L
NHFLA-BH40-A-SEP2020	N	Antimony	1.70	0.420 J	1.10 U		mg/kg	L
NHFLA-BH40-A-SEP2020	N	Sodium	210	54.7 J	110 U		mg/kg	L
NHFLA-BH40-B-SEP2020	N	Antimony	1.70	0.370 J	1.00 U		mg/kg	L
NHFLA-BH40-B-SEP2020	N	Sodium	210	145 J	210 U		mg/kg	L
NHFLA-DUP10-SEP2020	FD	Antimony	1.40	0.130 J	0.880 U		mg/kg	L
NHFLA-DUP8-SEP2020	FD	Sodium	210	153 J	210 U		mg/kg	L
NHFLA-DUP9-SEP2020	FD	Sodium	110	53.3 J	56.0 U		mg/kg	L
NHFLA-SL27-A-SEP2020	N	Antimony	0.850	0.260 J	0.530 U		mg/kg	L
NHFLA-SL27-A-SEP2020	N	Sodium	100	85.9 J	100 U		mg/kg	L
NHFLA-SL28-A-SEP2020	N	Antimony	1.60	0.190 J	1.00 U		mg/kg	L
NHFLA-SL31-A-SEP2020	N	Antimony	0.830	0.470 J	0.520 U		mg/kg	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6010, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-BH39-A-SEP2020 (SD)/ SN7811-004P	Aluminum	-1273	74 - 119	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-BH39-A-SEP2020 (SD)/ SN7811-004P	Iron	-3000	81 - 118	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-BH39-A-SEP2020 (SD)/ SN7811-004P	Manganese	-41.67	84 - 114	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-BH39-A-SEP2020 (SD)/ SN7811-004P	Antimony	30.73	79 - 114	30 - 125	percent	J/UJ	M	
NHFLA-BH39-A-SEP2020 (SD)/ SN7811-004P	Lead	39.09	81 - 112	30 - 125	percent	J/UJ	M	
NHFLA-BH39-A-SEP2020 (SD)/ SN7811-004P	Arsenic	49.09	82 - 111	30 - 125	percent	J/UJ	M	
NHFLA-BH39-A-SEP2020 (SD)/ SN7811-004P	Magnesium	5.435	78 - 115	30 - 125	percent	J/X	M	
NHFLA-BH39-A-SEP2020 (SD)/ SN7811-004P	Potassium	54.55	81 - 116	30 - 125	percent	J/UJ	M	
NHFLA-BH39-A-SEP2020 (SD)/ SN7811-004P	Zinc	56.16	82 - 113	30 - 125	percent	J/UJ	M	
NHFLA-BH39-A-SEP2020 (SD)/ SN7811-004P	Calcium	57.97	81 - 116	30 - 125	percent	J/UJ	M	Spike amount Insignificant
NHFLA-BH39-A-SEP2020 (SD)/ SN7811-004P	Copper	64.86	81 - 117	30 - 125	percent	J/UJ	M	
NHFLA-BH39-A-SEP2020 (SD)/ SN7811-004P	Vanadium	69.75	82 - 114	30 - 125	percent	J/UJ	M	
NHFLA-BH39-A-SEP2020 (SD)/ SN7811-004P	Chromium	70.59	85 - 113	30 - 125	percent	J/UJ	M	
NHFLA-BH39-A-SEP2020 (SD)/ SN7811-004P	Silver	75.20	82 - 112	30 - 125	percent	J/UJ	M	
NHFLA-BH39-A-SEP2020 (SD)/ SN7811-004P	Barium	77.96	83 - 113	30 - 125	percent	J/UJ	M	
NHFLA-BH39-A-SEP2020 (SD)/ SN7811-004P	Nickel	80.07	83 - 113	30 - 125	percent	J/UJ	M	
NHFLA-BH39-A-SEP2020 (SD)/ SN7811-004P	Cobalt	82.97	85 - 112	30 - 125	percent	J/UJ	M	

Quality Control Outliers for test method SW6010, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-BH39-A-SEP2020 (MS)/ SN7811-004S	Iron	-3636	81 - 118	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-BH39-A-SEP2020 (MS)/ SN7811-004S	Aluminum	-409.1	74 - 119	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-BH39-A-SEP2020 (MS)/ SN7811-004S	Zinc	115.2	82 - 113	30 - 125	percent	J/None	M	
NHFLA-BH39-A-SEP2020 (MS)/ SN7811-004S	Antimony	35.69	79 - 114	30 - 125	percent	J/UJ	M	
NHFLA-BH39-A-SEP2020 (MS)/ SN7811-004S	Lead	43.12	81 - 112	30 - 125	percent	J/UJ	M	
NHFLA-BH39-A-SEP2020 (MS)/ SN7811-004S	Calcium	51.09	81 - 116	30 - 125	percent	J/UJ	M	Spike amount Insignificant
NHFLA-BH39-A-SEP2020 (MS)/ SN7811-004S	Manganese	7.313	84 - 114	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-BH39-A-SEP2020 (MS)/ SN7811-004S	Silver	73.33	82 - 112	30 - 125	percent	J/UJ	M	
NHFLA-BH39-A-SEP2020 (MS)/ SN7811-004S	Barium	80.05	83 - 113	30 - 125	percent	J/UJ	M	
NHFLA-BH39-A-SEP2020 (MS)/ SN7811-004S	Cobalt	83.36	85 - 112	30 - 125	percent	J/UJ	M	
NHFLA-BH39-A-SEP2020 (MS)/ SN7811-004S	Chromium	84.02	85 - 113	30 - 125	percent	J/UJ	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-BH39-A-SEP2020	N	Antimony	1.80	0.810 JN	1.10 UJ		mg/kg	L/M
NHFLA-BH39-A-SEP2020	N	Arsenic	1.80	21.3 N	21.3 J	-	mg/kg	M
NHFLA-BH39-A-SEP2020	N	Barium	1.10	72.7 N	72.7 J	-	mg/kg	M
NHFLA-BH39-A-SEP2020	N	Chromium	2.20	19.8 N	19.8 J	-	mg/kg	M
NHFLA-BH39-A-SEP2020	N	Cobalt	2.20	14.0 N	14.0 J	-	mg/kg	M
NHFLA-BH39-A-SEP2020	N	Copper	5.50	36.9 N	36.9 J	-	mg/kg	M
NHFLA-BH39-A-SEP2020	N	Lead	1.10	35.6 N	35.6 J	-	mg/kg	M
NHFLA-BH39-A-SEP2020	N	Magnesium	22.0	2130 N*	2130 J	-	mg/kg	M/D

Qualified Results associated with the MS Recovery for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-BH39-A-SEP2020	N	Nickel	2.20	44.8 N	44.8 J	-	mg/kg	M
NHFLA-BH39-A-SEP2020	N	Potassium	220	1300 N	1300 J	-	mg/kg	M
NHFLA-BH39-A-SEP2020	N	Vanadium	2.20	42.7 N	42.7 J	-	mg/kg	M
NHFLA-BH39-A-SEP2020	N	Silver	2.20	0.649 JNA	0.649 J	-	mg/kg	M/TR
NHFLA-BH39-A-SEP2020	N	Zinc	4.40	214 N	214 J		mg/kg	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6010, MS RPD

The objective of matrix spikes/matrix spike duplicates (MS/MSD) RPD analysis is to demonstrate acceptable method precision by the laboratory at the time of analysis. MS/MSD analyses are also performed to generate data that determines the long-term precision of the analytical method on various matrices. Non-homogenous samples can impact the apparent method precision. Summary forms were evaluated and compared to electronic data deliverables. Matrix spikes/matrix spike duplicates results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-BH39-A-SEP2020 (SD)/ SN7811-004P	Magnesium	21.49	< 20	< 20	rpd	J/UJ	D	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS RPD for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-BH39-A-SEP2020	N	Magnesium	22.0	2130 N*	2130 J	-	mg/kg	M/D

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB17-SEP2020 (EB)/ SN7811-16	Manganese	0.4900	< 0.35	< 2	ug/l	U/None	V	
NHFLA-EB17-SEP2020 (EB)/ SN7811-16	Nickel	0.6000	< 0.15	< 2	ug/l	U/None	V	
NHFLA-EB17-SEP2020 (EB)/ SN7811-16	Lead	1.100	< 0.075	< 1	ug/l	U/None	V	
NHFLA-EB17-SEP2020 (EB)/ SN7811-16	Vanadium	1.800	< 0.5	< 5	ug/l	U/None	V	
NHFLA-EB17-SEP2020 (EB)/ SN7811-16	Copper	12.10	< 0.19	< 3	ug/l	U/None	V	
NHFLA-EB17-SEP2020 (EB)/ SN7811-16	Aluminum	15.00	< 4.4	< 100	ug/l	U/None	V	
NHFLA-EB17-SEP2020 (EB)/ SN7811-16	Arsenic	2.400	< 2.3	< 5	ug/l	U/None	V	
NHFLA-EB17-SEP2020 (EB)/ SN7811-16	Potassium	2500	< 31	< 1000	ug/l	U/None	V	
NHFLA-EB17-SEP2020 (EB)/ SN7811-16	Calcium	47300	< 21	< 100	ug/l	U/None	V	
NHFLA-EB17-SEP2020 (EB)/ SN7811-16	Sodium	81300	< 19	< 1000	ug/l	U/None	V	
NHFLA-EB17-SEP2020 (EB)/ SN7811-16	Magnesium	9020	< 8	< 100	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Silver	0.08300	< 0.05	< 1	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Cadmium	0.2200	< 0.03	< 1	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Beryllium	0.2200	< 0.034	< 1	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Cobalt	0.3900	< 0.061	< 1	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Antimony	0.4500	< 0.054	< 1	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Chromium	0.4600	< 0.22	< 5	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Lead	0.4900	< 0.074	< 1	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Nickel	0.5500	< 0.15	< 2	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Vanadium	0.7900	< 0.51	< 5	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Copper	0.8000	< 0.18	< 3	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Selenium	0.8200	< 0.19	< 5	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Aluminum	13.00	< 4.4	< 100	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Iron	19.00	< 13	< 100	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Calcium	21.00	< 20	< 100	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Magnesium	23.00	< 7.8	< 100	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Sodium	75.00	< 19	< 1000	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Thallium	0.1500	< 0.061	< 1	ug/l	U/None	L	
PBWNI23IMW2 (LB)/ PBWNI23IMW2	Manganese	0.9400	< 0.35	< 2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB17-SEP2020	EB	Aluminum	100	15.0 J	40.0 U		ug/l	L
NHFLA-EB17-SEP2020	EB	Lead	1.10	1.10	1.10 U		ug/l	L
NHFLA-EB17-SEP2020	EB	Manganese	2.00	0.490 J	1.00 U		ug/l	L
NHFLA-EB17-SEP2020	EB	Nickel	2.00	0.600 J	1.20 U		ug/l	L

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB17-SEP2020	EB	Vanadium	5.00	1.80 J	4.00 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB17-SEP2020 (EB)/ SN7811-16	Chromium, Hexavalent	0.003600	< 0.00076	< 0.025	mg/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7196, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG286494-1 (LB)/ WG286494-1	Chromium, Hexavalent	0.005700	< 0.00076	< 0.025	mg/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB17-SEP2020	EB	Chromium, Hexavalent	0.0250	0.00360 J	0.0125 U		mg/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG287289-1 (LB)/ WG287289-1	Chromium, Hexavalent	0.2800	< 0.14	< 0.48	mg/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-BH37-B-SEP2020	N	Chromium, Hexavalent	0.550	0.320 J	0.330 U		mg/kg	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-BH38-A-SEP2020 (MS)/ WG287289-3	Chromium, Hexavalent	68.07	84 - 110	30 - 125	percent	J/UJ	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-BH38-A-SEP2020	N	Chromium, Hexavalent	0.580	0.350 U	0.350 X		mg/kg	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-BH37-A-SEP2020 (N)/ SN7811-9		13.98	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-BH37-B-SEP2020 (N)/ SN7811-10		13.97	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-BH38-A-SEP2020 (N)/ SN7811-7		14.02	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-BH38-A-SEP2020 (N)/ WG287289-3		14.02	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-BH38-B-SEP2020 (N)/ SN7811-8		14.01	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-BH39-A-SEP2020 (N)/ SN7811-4		8.040	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-BH39-B-SEP2020 (N)/ SN7811-5		8.030	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-BH40-A-SEP2020 (N)/ SN7811-1		8.080	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-BH40-B-SEP2020 (N)/ SN7811-2		8.070	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-DUP10-SEP2020 (FD)/ SN7811-13		13.88	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-DUP8-SEP2020 (FD)/ SN7811-3		8.070	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-DUP9-SEP2020 (FD)/ SN7811-6		8.030	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-SL26-A-SEP2020 (N)/ SN7811-15		13.84	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-SL27-A-SEP2020 (N)/ SN7811-14		13.86	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-SL28-A-SEP2020 (N)/ SN7811-11		13.91	< 1	< 2	days	J/X	H1	Test Exceeds UCL
NHFLA-SL31-A-SEP2020 (N)/ SN7811-12		13.88	< 1	< 2	days	J/X	H1	Test Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7471, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-DUP9-SEP2020 (SD)/ SN7811-006P	Mercury	63.98	80 - 124	30 - 125	percent	J/UJ	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW7471

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-BH39-B-SEP2020	N	Mercury	0.0380	0.125	0.125 J	-	mg/kg	M
NHFLA-DUP9-SEP2020	FD	Mercury	0.0330	0.141 N	0.141 J	-	mg/kg	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB17-SEP2020 (EB)/ SN7811-16	Benzene	0.2700	< 0.26	< 1	ug/l	U/None	V	
NHFLA-EB17-SEP2020 (EB)/ SN7811-16	Methylene chloride	1.200	< 1.1	< 5	ug/l	U/None	V	
NHFLA-EB17-SEP2020 (EB)/ SN7811-16	Toluene	1.400	< 0.27	< 1	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG287174-2 (LB)/ WG287174-2	Methylene chloride	10.00	< 7.9	< 25	ug/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG286777-1 (BS)/ WG286777-1	4-Methyl-2-pentanone (MIBK)	130.6	67 - 130	10 - 130	percent	J/None	C	
WG286777-1 (BS)/ WG286777-1	Methyl tert-butyl ether (MTBE)	69.80	71 - 124	10 - 124	percent	J/UJ	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB17-SEP2020	EB	Methyl tert-butyl ether (MTBE)	1.00	0.500 UL	0.500 UJ		ug/l	C
NHFLA-TB19-SEP2020	TB	Methyl tert-butyl ether (MTBE)	1.00	0.500 UL	0.500 UJ		ug/l	C
NHFLA-TB20-SEP2020	TB	Methyl tert-butyl ether (MTBE)	1.00	0.500 UL	0.500 UJ		ug/l	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-DUP10-SEP2020 (FD)/ SN7811-13	Dibromofluoromethane	122.0	78 - 119	10 - 119	percent	J/None	I	
NHFLA-DUP10-SEP2020 (FD)/ SN7811-13	1-Bromo-4-fluorobenzene (4-Bromofluorobenzene)	58.80	79 - 119	10 - 119	percent	J/UJ	I	
NHFLA-SL27-A-SEP2020 (N)/ SN7811-14	Dibromofluoromethane	121.0	78 - 119	10 - 119	percent	J/None	I	
NHFLA-SL31-A-SEP2020 (N)/ SN7811-12	Dibromofluoromethane	120.0	78 - 119	10 - 119	percent	J/None	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP10-SEP2020	FD	1,1,1-Trichloroethane	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	1,1,2,2-Tetrachloroethane	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	1,1,2-Trichloro-1,2,2-trifluoroethane	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	1,1,2-Trichloroethane	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	1,1-Dichloroethane	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	1,1-Dichloroethene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	1,2,3-Trichlorobenzene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	1,2,4-Trichlorobenzene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	1,2-Dibromo-3-chloropropane	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	1,2-Dibromoethane (EDB)	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	1,2-Dichlorobenzene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	1,2-Dichloroethane	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	1,2-Dichloropropane	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	1,3-Dichlorobenzene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	1,4-Dichlorobenzene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	2-Butanone (MEK)	25.0	12.0 U	12.0 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	2-Hexanone	25.0	12.0 U	12.0 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	4-Methyl-2-pentanone (MIBK)	25.0	12.0 U	12.0 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Acetone	25.0	12.0 U	12.0 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Benzene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Bromochloromethane	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Bromodichloromethane	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Bromoform	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Bromomethane	9.90	4.90 U	4.90 UJ		ug/kg	I

Qualified Results associated with the Surrogate for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP10-SEP2020	FD	Carbon disulfide	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Carbon tetrachloride	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Chlorobenzene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Chloroethane	9.90	4.90 U	4.90 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Chloroform	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Chloromethane	9.90	4.90 U	4.90 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	cis-1,2-Dichloroethene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	cis-1,3-Dichloropropene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Cyclohexane	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Dibromochloromethane	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Dichlorodifluoromethane	9.90	4.90 U	4.90 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Ethylbenzene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Isopropylbenzene (Cumene)	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	m,p-Xylene	9.90	4.90 U	4.90 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Methyl acetate	4.90	3.00 U	3.00 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Methyl tert-butyl ether (MTBE)	9.90	4.90 U	4.90 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Methylcyclohexane	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Methylene chloride	25.0	7.90 J	7.90 J		ug/kg	I/TR
NHFLA-DUP10-SEP2020	FD	o-Xylene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Styrene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Tetrachloroethene (PCE)	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Toluene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	trans-1,2-Dichloroethene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	trans-1,3-Dichloropropene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Trichloroethene (TCE)	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Trichlorofluoromethane	9.90	4.90 U	4.90 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Vinyl chloride	9.90	4.90 U	4.90 UJ		ug/kg	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Trip Blank

The purpose of trip blanks is to determine the existence and magnitude of cross-contamination problems resulting from the shipping of samples. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in trip blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-TB19-SEP2020 (TB)/ SN7811-17	Methylene chloride	1.200	< 1.1	< 5	ug/l	U/None	T	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG286713-1 (LB)/ WG286713-1	Bis(2-ethylhexyl)phthalate	2.700	< 1.7	< 10	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG286713-2 (BS)/ WG286713-2	4-Nitrophenol	0.000	10 - 114	10 - 114	percent	J/X	C	
WG286713-2 (BS)/ WG286713-2	2,4-Dinitrophenol	0.000	12 - 143	10 - 143	percent	J/X	C	
WG286713-2 (BS)/ WG286713-2	Pentachlorophenol	0.000	35 - 138	10 - 138	percent	J/X	C	
WG286713-2 (BS)/ WG286713-2	4,6-Dinitro-2-methylphenol	0.000	44 - 137	10 - 137	percent	J/X	C	
WG286713-2 (BS)/ WG286713-2	2,4,6-Trichlorophenol	0.000	50 - 125	10 - 125	percent	J/X	C	
WG286713-2 (BS)/ WG286713-2	2,4,5-Trichlorophenol	0.000	53 - 123	10 - 123	percent	J/X	C	
WG286713-2 (BS)/ WG286713-2	Cresols, m- & p-	24.10	29 - 110	10 - 110	percent	J/UJ	C	
WG286713-2 (BS)/ WG286713-2	2-Nitrophenol	3.110	47 - 123	10 - 123	percent	J/X	C	
WG286713-2 (BS)/ WG286713-2	Phenol	3.300	10 - 78	10 - 78	percent	J/X	C	
WG286713-2 (BS)/ WG286713-2	2,4-Dichlorophenol	3.560	47 - 121	10 - 121	percent	J/X	C	
WG286713-2 (BS)/ WG286713-2	4-Chloro-3-methylphenol	33.60	52 - 119	10 - 119	percent	J/UJ	C	
WG286713-2 (BS)/ WG286713-2	2-Chlorophenol	4.300	38 - 117	10 - 117	percent	J/X	C	
WG286713-2 (BS)/ WG286713-2	Benzaldehyde	642.0	10 - 189	10 - 189	percent	J/None	C	
WG287179-2 (BS)/ WG287179-2	Benzaldehyde	1292	10 - 189	10 - 189	percent	J/None	C	
WG287179-2 (BS)/ WG287179-2	Caprolactam	9.780	10 - 86	10 - 86	percent	J/X	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB17-SEP2020	EB	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	2,4,6-Trichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	2,4-Dichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	2-Chlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	2-Nitrophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	4-Chloro-3-methylphenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	Cresols, m- & p-	9.40	7.10 UL	7.10 X		ug/l	C/I

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB17-SEP2020	EB	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	Phenol	9.40	7.10 UL	7.10 X		ug/l	C/I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG287057-2 (BS)/ WG287057-2	Caprolactam	36.71	46 - 117	10 - 117	percent	J/UJ	C	
WG287057-2 (BS)/ WG287057-2	Benzaldehyde	565.3	10 - 134	10 - 134	percent	J/None	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP10-SEP2020	FD	Caprolactam	360	270 UL	270 UJ		ug/kg	C
NHFLA-SL26-A-SEP2020	N	Caprolactam	380	280 UL	280 UJ		ug/kg	C
NHFLA-SL27-A-SEP2020	N	Caprolactam	360	270 UL	270 UJ		ug/kg	C
NHFLA-SL28-A-SEP2020	N	Caprolactam	380	290 UL	290 UJ		ug/kg	C
NHFLA-SL31-A-SEP2020	N	Caprolactam	380	280 UL	280 UJ		ug/kg	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB17-SEP2020 (EB)/ SN7811-16	2-Fluorophenol	0.000	19 - 119	10 - 119	percent	J/X	I	
NHFLA-EB17-SEP2020 (EB)/ SN7811-16	2,4,6-Tribromophenol	1.980	43 - 140	10 - 140	percent	J/X	I	
NHFLA-EB17-SEP2020 (EB)/ SN7811-16	Phenol-d6	6.230	10 - 90	10 - 90	percent	J/X	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB17-SEP2020	EB	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	2,4,6-Trichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	2,4-Dichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	2,4-Dimethylphenol	9.40	7.10 U	7.10 X		ug/l	I
NHFLA-EB17-SEP2020	EB	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	2,6-Dinitrotoluene	9.40	7.10 U	7.10 U		ug/l	I
NHFLA-EB17-SEP2020	EB	2-Chlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	2-Methylphenol (o-Cresol)	9.40	7.10 U	7.10 X		ug/l	I
NHFLA-EB17-SEP2020	EB	2-Nitrophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	4-Chloro-3-methylphenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	Cresols, m- & p-	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	Phenol	9.40	7.10 UL	7.10 X		ug/l	C/I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Field Duplicate Report By SDG

C02NY0079-02, Nike BU 51/52, Launch Area

Nike BU 51/52 - Hamburg NY - First Soil Sampling Event

Field Duplicates for SDG: SN7811

Location	Analysis
NHFLA-BH39	BNASIM

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	2-Methylnaphthalene	ND	ND	24.0	NA	50	NA	OK
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Acenaphthene	ND	ND	24.0	NA	50	NA	OK
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Acenaphthylene	ND	ND	24.0	NA	50	NA	OK
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Anthracene	ND	ND	24.0	NA	50	NA	OK
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Benzo(a)anthracene	ND	3.20	24.0	NA	50	NA	OK
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Benzo(a)pyrene	ND	ND	24.0	NA	50	NA	OK
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Benzo(b)fluoranthene	ND	4.50	24.0	NA	50	NA	OK
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Benzo(g,h,i)perylene	ND	2.80	24.0	NA	50	NA	OK
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Benzo(k)fluoranthene	ND	ND	24.0	NA	50	NA	OK
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Chrysene	4.10	6.60	24.0	46.7	50	NA	OK
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Dibenz(a,h)anthracene	ND	ND	24.0	NA	50	NA	OK
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Fluoranthene	ND	8.40	24.0	NA	50	NA	OK
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Fluorene	ND	ND	24.0	NA	50	NA	OK
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Indeno(1,2,3-c,d)pyrene	ND	ND	24.0	NA	50	NA	OK
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Naphthalene	ND	ND	24.0	NA	50	NA	OK
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Phenanthrene	ND	6.80	24.0	NA	50	NA	OK
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Pyrene	ND	7.80	24.0	NA	50	NA	OK

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Field Duplicate Report By SDG

C02NY0079-02, Nike BU 51/52, Launch Area

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Field Duplicates for SDG: SN7811

Location	Analysis
NHFLA-BH39	SW6010

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Aluminum	16500	17000	74.0	2.99	50	OK	NA
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Antimony	ND	ND	2.00	NA	50	NA	OK
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Arsenic	18.5	17.3	2.00	6.70	50	OK	NA
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Barium	110	105	1.20	4.65	50	OK	NA
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Beryllium	0.989	0.968	1.20	2.15	50	NA	OK
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Cadmium	3.07	2.80	1.20	9.20	50	NA	OK
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Calcium	3400	4150	24.0	19.9	50	OK	NA
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Chromium	21.1	23.0	2.40	8.62	50	OK	NA
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Cobalt	20.6	20.8	2.40	0.966	50	OK	NA
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Copper	52.1	52.3	6.10	0.383	50	OK	NA
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Iron	54300	54100	24.0	0.369	50	OK	NA
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Lead	35.3	28.3	1.20	22.0	50	OK	NA
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Magnesium	3310	3540	24.0	6.72	50	OK	NA
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Manganese	2380	3200	1.20	29.4	50	OK	NA
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Nickel	78.2	75.8	2.40	3.12	50	OK	NA
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Potassium	1590	1790	240	11.8	50	OK	NA
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Selenium	2.80	1.90	2.40	38.3	50	NA	OK
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Silver	ND	ND	2.40	NA	50	NA	OK
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Sodium	ND	ND	240	NA	50	NA	OK
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Thallium	ND	ND	3.70	NA	50	NA	OK
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Vanadium	31.7	35.1	2.40	10.2	50	OK	NA
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-	SN7811-5 / SN7811-6	Zinc	369	362	4.90	1.92	50	OK	NA

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Field Duplicates for SDG: SN7811

Location	Analysis
NHFLA-BH39	SW7196

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-SEP2020	SN7811-5 / SN7811-6	Chromium, Hexavalent	ND	ND	0.610	NA	50	NA	OK

Location	Analysis
NHFLA-BH39	SW7471

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-BH39-B-SEP2020 / NHFLA-DUP9-SEP2020	SN7811-5 / SN7811-6	Mercury	0.125	0.141	0.0380	12.0	50	NA	OK

Location	Analysis
NHFLA-BH40	BNASIM

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	2-Methylnaphthalene	ND	ND	22.0	NA	50	NA	OK
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Acenaphthene	ND	ND	22.0	NA	50	NA	OK
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Acenaphthylene	ND	ND	22.0	NA	50	NA	OK
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Anthracene	ND	ND	22.0	NA	50	NA	OK
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Benzo(a)anthracene	ND	ND	22.0	NA	50	NA	OK
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Benzo(a)pyrene	ND	ND	22.0	NA	50	NA	OK
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Benzo(b)fluoranthene	ND	ND	22.0	NA	50	NA	OK
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Benzo(g,h,i)perylene	ND	ND	22.0	NA	50	NA	OK
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Benzo(k)fluoranthene	ND	ND	22.0	NA	50	NA	OK
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Chrysene	ND	2.40	22.0	NA	50	NA	OK
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Dibenz(a,h)anthracene	ND	ND	22.0	NA	50	NA	OK
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Fluoranthene	ND	ND	22.0	NA	50	NA	OK
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Fluorene	ND	ND	22.0	NA	50	NA	OK
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Indeno(1,2,3-c,d)pyrene	ND	ND	22.0	NA	50	NA	OK
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Naphthalene	ND	ND	22.0	NA	50	NA	OK

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NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Phenanthrene	ND	ND	22.0	NA	50	NA	OK
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Pyrene	ND	ND	22.0	NA	50	NA	OK

Location	**Analysis**
NHFLA-BH40	SW6010

Field ID - Primary/Field Dup	**Lab ID - Primary/Field Dup**	**Analyte**	**Primary Result**	**FD Result**	**RL**	**RPD**	**RPD Criteria**	**RPD Check**	**RL Check**
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Aluminum	13000	13600	63.0	4.51	50	OK	NA
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Antimony	ND	ND	1.70	NA	50	NA	OK
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Arsenic	5.77	5.50	1.70	4.79	50	NA	OK
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Barium	67.5	72.2	1.00	6.73	50	OK	NA
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Beryllium	0.609	0.617	1.00	1.31	50	NA	OK
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Cadmium	0.221	0.268	1.00	19.2	50	NA	OK
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Calcium	80600	87400	21.0	8.10	50	OK	NA
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Chromium	18.4	19.5	2.10	5.80	50	OK	NA
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Cobalt	9.83	9.80	2.10	0.306	50	NA	OK
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Copper	30.0	28.8	5.30	4.08	50	OK	NA
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Iron	21600	21400	21.0	0.930	50	OK	NA
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Lead	9.38	9.80	1.00	4.38	50	OK	NA
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Magnesium	10400	11300	21.0	8.29	50	OK	NA
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Manganese	370	376	1.00	1.61	50	OK	NA
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Nickel	30.9	30.8	2.10	0.324	50	OK	NA
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Potassium	2670	2860	210	6.87	50	OK	NA
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Selenium	0.740	ND	2.10	NA	50	NA	OK
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Silver	0.100	ND	2.10	NA	50	NA	OK
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Sodium	ND	ND	210	NA	50	NA	OK
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Thallium	ND	ND	3.20	NA	50	NA	OK
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Vanadium	24.9	26.3	2.10	5.47	50	OK	NA
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-SEP2020	SN7811-2 / SN7811-3	Zinc	71.4	68.8	4.20	3.71	50	OK	NA

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Field Duplicates for SDG: SN7811

Location	Analysis
NHFLA-BH40	SW7196

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-	SN7811-2 / SN7811-3	Chromium, Hexavalent	0.320	ND	0.550	NA	50	NA	OK

Location	Analysis
NHFLA-BH40	SW7471

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-BH40-B-SEP2020 / NHFLA-DUP8-	SN7811-2 / SN7811-3	Mercury	0.0170	0.0180	0.0360	5.71	50	NA	OK

Location	Analysis
NHFLA-SL31	BNASIM

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-	SN7811-12 / SN7811-13	2-Methylnaphthalene	4.70	5.20	23.0	10.1	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-	SN7811-12 / SN7811-13	Acenaphthene	ND	ND	23.0	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-	SN7811-12 / SN7811-13	Acenaphthylene	ND	ND	23.0	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-	SN7811-12 / SN7811-13	Anthracene	7.70	6.60	23.0	15.4	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-	SN7811-12 / SN7811-13	Benzo(a)anthracene	73.0	53.0	23.0	31.7	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-	SN7811-12 / SN7811-13	Benzo(a)pyrene	78.0	62.0	23.0	22.9	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-	SN7811-12 / SN7811-13	Benzo(b)fluoranthene	110	88.0	23.0	22.2	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-	SN7811-12 / SN7811-13	Benzo(g,h,i)perylene	62.0	54.0	23.0	13.8	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-	SN7811-12 / SN7811-13	Benzo(k)fluoranthene	39.0	34.0	23.0	13.7	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-	SN7811-12 / SN7811-13	Chrysene	110	74.0	23.0	39.1	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-	SN7811-12 / SN7811-13	Dibenz(a,h)anthracene	20.0	14.0	23.0	35.3	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-	SN7811-12 / SN7811-13	Fluoranthene	91.0	94.0	23.0	3.24	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-	SN7811-12 / SN7811-13	Fluorene	ND	ND	23.0	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-	SN7811-12 / SN7811-13	Indeno(1,2,3-c,d)pyrene	52.0	46.0	23.0	12.2	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-	SN7811-12 / SN7811-13	Naphthalene	ND	ND	23.0	NA	50	NA	OK

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NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Phenanthrene	45.0	39.0	23.0	14.3	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Pyrene	140	110	23.0	24.0	50	NA	OK

Location	Analysis
NHFLA-SL31	LYDKHN

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Total Organic Carbon	28000	39000	2000	32.8	50	OK	NA

Location	Analysis
NHFLA-SL31	SW6010

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Aluminum	12400	14300	31.0	14.2	50	OK	NA
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Antimony	ND	ND	0.830	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Arsenic	8.64	7.22	0.830	17.9	50	OK	NA
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Barium	75.8	78.9	0.520	4.01	50	OK	NA
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Beryllium	0.625	1.23	0.520	65.2	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Cadmium	0.936	0.310	0.520	100	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Calcium	38100	84000	10.0	75.2	50	Out	NA
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Chromium	45.1	14.1	1.00	105	50	Out	NA
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Cobalt	17.1	6.55	1.00	89.2	50	Out	10.6
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Copper	25.2	19.8	2.60	24.0	50	Out	5.4
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Iron	22900	17500	10.0	26.7	50	OK	NA
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Lead	36.0	21.0	0.520	52.6	50	Out	NA
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Magnesium	5500	6870	10.0	22.2	50	OK	NA
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Manganese	1160	1100	0.520	5.31	50	OK	NA
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Nickel	26.4	19.2	1.00	31.6	50	OK	NA
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Potassium	2060	1680	100	20.3	50	OK	NA
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Selenium	1.89	1.20	1.00	44.7	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Silver	0.220	0.120	1.00	58.8	50	NA	OK

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Nike BU 51/52 - Hamburg NY - First Soil Sampling Event

Field Duplicates for SDG: SN7811

NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Sodium	112	198	100	55.5	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Thallium	0.400	0.330	1.60	19.2	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Vanadium	36.9	21.1	1.00	54.5	50	Out	NA
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Zinc	112	80.5	2.10	32.7	50	OK	NA

Location NHFLA-SL31 **Analysis** SW7196

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Chromium, Hexavalent	ND	2.00	0.570	NA	50	NA	2.0

Location NHFLA-SL31 **Analysis** SW7471

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Mercury	0.0390	ND	0.0320	NA	50	NA	OK

Location NHFLA-SL31 **Analysis** SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	1,1,1-Trichloroethane	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	1,1,2,2-Tetrachloroethane	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	1,1,2-Trichloroethane	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	1,1-Dichloroethane	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	1,1-Dichloroethene	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	1,2,3-Trichlorobenzene	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	1,2,4-Trichlorobenzene	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	1,2-Dibromo-3-chloropropane	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	1,2-Dibromoethane (EDB)	ND	ND	5.90	NA	50	NA	OK

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Field Duplicate Report By SDG

C02NY0079-02, Nike BU 51/52, Launch Area

Nike BU 51/52 - Hamburg NY - First Soil Sampling Event

Field Duplicates for SDG: SN7811

NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	1,2-Dichlorobenzene	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	1,2-Dichloroethane	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	1,2-Dichloropropane	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	1,3-Dichlorobenzene	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	1,4-Dichlorobenzene	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	2-Butanone (MEK)	ND	ND	29.0	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	2-Hexanone	ND	ND	29.0	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	4-Methyl-2-pentanone (MIBK)	ND	ND	29.0	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Acetone	ND	ND	29.0	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Benzene	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Bromochloromethane	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Bromodichloromethane	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Bromoform	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Bromomethane	ND	ND	12.0	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Carbon disulfide	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Carbon tetrachloride	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Chlorobenzene	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Chloroethane	ND	ND	12.0	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Chloroform	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Chloromethane	ND	ND	12.0	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	cis-1,2-Dichloroethene	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	cis-1,3-Dichloropropene	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Cyclohexane	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Dibromochloromethane	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Dichlorodifluoromethane	ND	ND	12.0	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Ethylbenzene	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Isopropylbenzene (Cumene)	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	m,p-Xylene	ND	ND	12.0	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Methyl acetate	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Methyl tert-butyl ether (MTBE)	ND	ND	12.0	NA	50	NA	OK

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Field Duplicate Report By SDG

C02NY0079-02, Nike BU 51/52, Launch Area

Nike BU 51/52 - Hamburg NY - First Soil Sampling Event

Field Duplicates for SDG: SN7811

NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Methylcyclohexane	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Methylene chloride	ND	7.90	29.0	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	o-Xylene	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Styrene	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Tetrachloroethene (PCE)	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Toluene	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	trans-1,2-Dichloroethene	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	trans-1,3-Dichloropropene	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Trichloroethene (TCE)	ND	ND	5.90	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Trichlorofluoromethane	ND	ND	12.0	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Vinyl chloride	ND	ND	12.0	NA	50	NA	OK

Location	Analysis
NHFLA-SL31	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	1,2,4,5-Tetrachlorobenzene	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	1,4-Dioxane (p-Dioxane)	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	2,2'-Oxybis(1-chloropropane)	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	2,4,5-Trichlorophenol	ND	ND	940	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	2,4,6-Trichlorophenol	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	2,4-Dichlorophenol	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	2,4-Dimethylphenol	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	2,4-Dinitrophenol	ND	ND	940	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	2,4-Dinitrotoluene	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	2,6-Dinitrotoluene	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	2-Chloronaphthalene	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	2-Chlorophenol	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	2-Methylphenol (o-Cresol)	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	2-Nitroaniline	ND	ND	940	NA	50	NA	OK

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Field Duplicate Report By SDG

C02NY0079-02, Nike BU 51/52, Launch Area

Nike BU 51/52 - Hamburg NY - First Soil Sampling Event

Field Duplicates for SDG: SN7811

NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	2-Nitrophenol	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	3,3'-Dichlorobenzidine	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	3-Nitroaniline	ND	ND	940	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	4,6-Dinitro-2-methylphenol	ND	ND	940	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	4-Bromophenyl phenyl ether	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	4-Chloro-3-methylphenol	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	4-Chloroaniline	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	4-Chlorophenyl phenyl ether	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	4-Nitroaniline	ND	ND	940	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	4-Nitrophenol	ND	ND	940	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Acetophenone	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Atrazine	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Benzaldehyde	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Benzyl butyl phthalate	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Biphenyl (Diphenyl)	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Bis(2-chloroethoxy)methane	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Bis(2-ethylhexyl)phthalate	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Caprolactam	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Carbazole	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Cresols, m- & p-	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Di-n-butyl phthalate	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	di-n-Octyl phthalate	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Dibenzofuran	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Diethyl phthalate	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Dimethyl phthalate	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Hexachlorobenzene	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Hexachlorobutadiene	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Hexachlorocyclopentadiene	ND	ND	380	NA	50	NA	OK

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Field Duplicate Report By SDG

C02NY0079-02, Nike BU 51/52, Launch Area

Nike BU 51/52 - Hamburg NY - First Soil Sampling Event

Field Duplicates for SDG: SN7811

NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Hexachloroethane	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Isophorone	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	N-Nitrosodi-n-propylamine	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	N-Nitrosodiphenylamine	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Nitrobenzene	ND	ND	380	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Pentachlorophenol	ND	ND	940	NA	50	NA	OK
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	Phenol	ND	ND	380	NA	50	NA	OK

Location	Analysis
NHFLA-SL31	SW9045

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-SL31-A-SEP2020 / NHFLA-DUP10-SEP2020	SN7811-12 / SN7811-13	pH	8.20	8.20	0.100	0.00	50	OK	NA

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Table of All Qualified Results

Test Method: BNASIM Extraction Method: SW3550								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-BH37-A-SEP2020	N	Chrysene	25.0	11.0 JL	11.0 J	-	ug/kg	C/TR
NHFLA-BH37-B-SEP2020	N	Chrysene	22.0	4.80 JL	4.80 J	-	ug/kg	C/TR
NHFLA-BH38-A-SEP2020	N	Chrysene	24.0	16.0 JL	16.0 J	-	ug/kg	C/TR
NHFLA-BH38-B-SEP2020	N	Chrysene	23.0	9.20 JL	9.20 J	-	ug/kg	C/TR
NHFLA-BH39-A-SEP2020	N	Chrysene	23.0	17.0 JL	17.0 J	-	ug/kg	C/TR
NHFLA-BH39-B-SEP2020	N	Chrysene	24.0	4.10 JL	4.10 J	-	ug/kg	C/TR
NHFLA-BH40-A-SEP2020	N	Chrysene	23.0	16.0 JL	16.0 J	-	ug/kg	C/TR
NHFLA-BH40-B-SEP2020	N	Chrysene	22.0	11.0 UL	11.0 UJ		ug/kg	C
NHFLA-DUP10-SEP2020	FD	Chrysene	22.0	74.0 L	74.0 J	-	ug/kg	C
NHFLA-DUP8-SEP2020	FD	Chrysene	22.0	2.40 JL	2.40 J	-	ug/kg	C/TR
NHFLA-DUP9-SEP2020	FD	Chrysene	24.0	6.60 JL	6.60 J	-	ug/kg	C/TR
NHFLA-SL26-A-SEP2020	N	Chrysene	23.0	240 L	240 J	-	ug/kg	C
NHFLA-SL27-A-SEP2020	N	Chrysene	22.0	450 L	450 J	-	ug/kg	C
NHFLA-SL28-A-SEP2020	N	Chrysene	23.0	210 L	210 J	-	ug/kg	C
NHFLA-SL31-A-SEP2020	N	Chrysene	23.0	110 L	110 J	-	ug/kg	C

Test Method: SW6010 Extraction Method: SW3050								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-BH37-A-SEP2020	N	Antimony	0.980	0.560 J	0.610 U		mg/kg	L
NHFLA-BH37-A-SEP2020	N	Sodium	120	49.4 J	61.0 U		mg/kg	L
NHFLA-BH37-B-SEP2020	N	Antimony	1.60	0.260 J	1.00 U		mg/kg	L
NHFLA-BH37-B-SEP2020	N	Sodium	200	80.2 J	100 U		mg/kg	L
NHFLA-BH38-A-SEP2020	N	Antimony	1.80	0.380 J	1.10 U		mg/kg	L
NHFLA-BH38-A-SEP2020	N	Sodium	230	32.0 J	110 U		mg/kg	L
NHFLA-BH38-B-SEP2020	N	Antimony	1.70	0.480 J	1.10 U		mg/kg	L
NHFLA-BH38-B-SEP2020	N	Sodium	220	55.9 J	110 U		mg/kg	L
NHFLA-BH39-A-SEP2020	N	Antimony	1.80	0.810 JN	1.10 UJ		mg/kg	L/M
NHFLA-BH39-A-SEP2020	N	Sodium	220	39.9 J	110 U		mg/kg	L
NHFLA-BH39-A-SEP2020	N	Arsenic	1.80	21.3 N	21.3 J	-	mg/kg	M
NHFLA-BH39-A-SEP2020	N	Barium	1.10	72.7 N	72.7 J	-	mg/kg	M
NHFLA-BH39-A-SEP2020	N	Chromium	2.20	19.8 N	19.8 J	-	mg/kg	M
NHFLA-BH39-A-SEP2020	N	Cobalt	2.20	14.0 N	14.0 J	-	mg/kg	M
NHFLA-BH39-A-SEP2020	N	Copper	5.50	36.9 N	36.9 J	-	mg/kg	M
NHFLA-BH39-A-SEP2020	N	Lead	1.10	35.6 N	35.6 J	-	mg/kg	M
NHFLA-BH39-A-SEP2020	N	Magnesium	22.0	2130 N*	2130 J	-	mg/kg	M/D
NHFLA-BH39-A-SEP2020	N	Nickel	2.20	44.8 N	44.8 J	-	mg/kg	M
NHFLA-BH39-A-SEP2020	N	Potassium	220	1300 N	1300 J	-	mg/kg	M
NHFLA-BH39-A-SEP2020	N	Vanadium	2.20	42.7 N	42.7 J	-	mg/kg	M
NHFLA-BH39-A-SEP2020	N	Silver	2.20	0.649 JNA	0.649 J	-	mg/kg	M/TR
NHFLA-BH39-A-SEP2020	N	Zinc	4.40	214 N	214 J		mg/kg	M
NHFLA-BH39-B-SEP2020	N	Antimony	2.00	0.180 J	1.20 U		mg/kg	L

Table of All Qualified Results

Test Method: SW6010	Extraction Method: SW3050							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-BH39-B-SEP2020	N	Sodium	240	48.0 J	120 U		mg/kg	L
NHFLA-BH40-A-SEP2020	N	Antimony	1.70	0.420 J	1.10 U		mg/kg	L
NHFLA-BH40-A-SEP2020	N	Sodium	210	54.7 J	110 U		mg/kg	L
NHFLA-BH40-B-SEP2020	N	Antimony	1.70	0.370 J	1.00 U		mg/kg	L
NHFLA-BH40-B-SEP2020	N	Sodium	210	145 J	210 U		mg/kg	L
NHFLA-DUP10-SEP2020	FD	Antimony	1.40	0.130 J	0.880 U		mg/kg	L
NHFLA-DUP10-SEP2020	FD	Chromium	1.80	14.1	14.1 J		mg/kg	D3
NHFLA-DUP10-SEP2020	FD	Cobalt	1.80	6.55	6.55 J		mg/kg	D3
NHFLA-DUP10-SEP2020	FD	Copper	4.40	19.8	19.8 J		mg/kg	D3
NHFLA-DUP10-SEP2020	FD	Lead	0.880	21.0	21.0 J		mg/kg	D3
NHFLA-DUP10-SEP2020	FD	Vanadium	1.80	21.1	21.1 J		mg/kg	D3
NHFLA-DUP10-SEP2020	FD	Calcium	18.0	84000	84000 J		mg/kg	D3
NHFLA-DUP8-SEP2020	FD	Sodium	210	153 J	210 U		mg/kg	L
NHFLA-DUP9-SEP2020	FD	Sodium	110	53.3 J	56.0 U		mg/kg	L
NHFLA-SL27-A-SEP2020	N	Antimony	0.850	0.260 J	0.530 U		mg/kg	L
NHFLA-SL27-A-SEP2020	N	Sodium	100	85.9 J	100 U		mg/kg	L
NHFLA-SL28-A-SEP2020	N	Antimony	1.60	0.190 J	1.00 U		mg/kg	L
NHFLA-SL31-A-SEP2020	N	Antimony	0.830	0.470 J	0.520 U		mg/kg	L
NHFLA-SL31-A-SEP2020	N	Chromium	1.00	45.1	45.1 J		mg/kg	D3
NHFLA-SL31-A-SEP2020	N	Cobalt	1.00	17.1	17.1 J		mg/kg	D3
NHFLA-SL31-A-SEP2020	N	Copper	2.60	25.2	25.2 J		mg/kg	D3
NHFLA-SL31-A-SEP2020	N	Lead	0.520	36.0	36.0 J		mg/kg	D3
NHFLA-SL31-A-SEP2020	N	Vanadium	1.00	36.9	36.9 J		mg/kg	D3
NHFLA-SL31-A-SEP2020	N	Calcium	10.0	38100	38100 J		mg/kg	D3

Test Method: SW6020	Extraction Method: SW3010							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB17-SEP2020	EB	Aluminum	100	15.0 J	40.0 U		ug/l	L
NHFLA-EB17-SEP2020	EB	Lead	1.10	1.10	1.10 U		ug/l	L
NHFLA-EB17-SEP2020	EB	Manganese	2.00	0.490 J	1.00 U		ug/l	L
NHFLA-EB17-SEP2020	EB	Nickel	2.00	0.600 J	1.20 U		ug/l	L
NHFLA-EB17-SEP2020	EB	Vanadium	5.00	1.80 J	4.00 U		ug/l	L

Test Method: SW7196	Extraction Method: NONE							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB17-SEP2020	EB	Chromium, Hexavalent	0.0250	0.00360 J	0.0125 U		mg/l	L

Test Method: SW7196	Extraction Method: SW3060							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-BH37-B-SEP2020	N	Chromium, Hexavalent	0.550	0.320 J	0.330 U		mg/kg	L
NHFLA-BH38-A-SEP2020	N	Chromium, Hexavalent	0.580	0.350 U	0.350 X		mg/kg	M
NHFLA-DUP10-SEP2020	FD	Chromium, Hexavalent	0.540	2.00	2.00 J		mg/kg	D3
NHFLA-SL31-A-SEP2020	N	Chromium, Hexavalent	0.570	0.340 U	0.340 UJ		mg/kg	D3

Table of All Qualified Results

Test Method: SW7471 Extraction Method: METHOD								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-BH39-B-SEP2020	N	Mercury	0.0380	0.125	0.125 J	-	mg/kg	M
NHFLA-DUP9-SEP2020	FD	Mercury	0.0330	0.141 N	0.141 J	-	mg/kg	M

Test Method: SW8260 Extraction Method: SW5030								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB17-SEP2020	EB	Methyl tert-butyl ether (MTBE)	1.00	0.500 UL	0.500 UJ		ug/l	C
NHFLA-TB19-SEP2020	TB	Methyl tert-butyl ether (MTBE)	1.00	0.500 UL	0.500 UJ		ug/l	C
NHFLA-TB20-SEP2020	TB	Methyl tert-butyl ether (MTBE)	1.00	0.500 UL	0.500 UJ		ug/l	C

Test Method: SW8260 Extraction Method: SW5035								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP10-SEP2020	FD	1,1,1-Trichloroethane	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	1,1,2,2-Tetrachloroethane	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	1,1,2-Trichloro-1,2,2-trifluoroethane	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	1,1,2-Trichloroethane	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	1,1-Dichloroethane	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	1,1-Dichloroethene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	1,2,3-Trichlorobenzene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	1,2,4-Trichlorobenzene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	1,2-Dibromo-3-chloropropane	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	1,2-Dibromoethane (EDB)	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	1,2-Dichlorobenzene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	1,2-Dichloroethane	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	1,2-Dichloropropane	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	1,3-Dichlorobenzene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	1,4-Dichlorobenzene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	2-Butanone (MEK)	25.0	12.0 U	12.0 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	2-Hexanone	25.0	12.0 U	12.0 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	4-Methyl-2-pentanone (MIBK)	25.0	12.0 U	12.0 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Acetone	25.0	12.0 U	12.0 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Benzene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Bromochloromethane	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Bromodichloromethane	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Bromoform	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Bromomethane	9.90	4.90 U	4.90 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Carbon disulfide	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Carbon tetrachloride	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Chlorobenzene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Chloroethane	9.90	4.90 U	4.90 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Chloroform	4.90	2.50 U	2.50 UJ		ug/kg	I

Table of All Qualified Results

Test Method: SW8260 Extraction Method: SW5035								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP10-SEP2020	FD	Chloromethane	9.90	4.90 U	4.90 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	cis-1,2-Dichloroethene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	cis-1,3-Dichloropropene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Cyclohexane	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Dibromochloromethane	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Dichlorodifluoromethane	9.90	4.90 U	4.90 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Ethylbenzene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Isopropylbenzene (Cumene)	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	m,p-Xylene	9.90	4.90 U	4.90 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Methyl acetate	4.90	3.00 U	3.00 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Methyl tert-butyl ether (MTBE)	9.90	4.90 U	4.90 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Methylcyclohexane	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Methylene chloride	25.0	7.90 J	7.90 J		ug/kg	I/TR
NHFLA-DUP10-SEP2020	FD	o-Xylene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Styrene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Tetrachloroethene (PCE)	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Toluene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	trans-1,2-Dichloroethene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	trans-1,3-Dichloropropene	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Trichloroethene (TCE)	4.90	2.50 U	2.50 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Trichlorofluoromethane	9.90	4.90 U	4.90 UJ		ug/kg	I
NHFLA-DUP10-SEP2020	FD	Vinyl chloride	9.90	4.90 U	4.90 UJ		ug/kg	I

Test Method: SW8270 Extraction Method: SW3510								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB17-SEP2020	EB	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	2,4,6-Trichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	2,4-Dichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	2,4-Dimethylphenol	9.40	7.10 U	7.10 X		ug/l	I
NHFLA-EB17-SEP2020	EB	2,6-Dinitrotoluene	9.40	7.10 U	7.10 U		ug/l	I
NHFLA-EB17-SEP2020	EB	2-Chlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	2-Methylphenol (o-Cresol)	9.40	7.10 U	7.10 X		ug/l	I
NHFLA-EB17-SEP2020	EB	2-Nitrophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	4-Chloro-3-methylphenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	Cresols, m- & p-	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	Phenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB17-SEP2020	EB	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I

Table of All Qualified Results

Test Method: SW8270 Extraction Method: SW3550								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP10-SEP2020	FD	Caprolactam	360	270 UL	270 UJ		ug/kg	C
NHFLA-SL26-A-SEP2020	N	Caprolactam	380	280 UL	280 UJ		ug/kg	C
NHFLA-SL27-A-SEP2020	N	Caprolactam	360	270 UL	270 UJ		ug/kg	C
NHFLA-SL28-A-SEP2020	N	Caprolactam	380	290 UL	290 UJ		ug/kg	C
NHFLA-SL31-A-SEP2020	N	Caprolactam	380	280 UL	280 UJ		ug/kg	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method LYDKHN

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP10-SEP2020	FD	Total Organic Carbon	1500	39000	39000 J	39000	
NHFLA-SL26-A-SEP2020	N	Total Organic Carbon	2100	42000	42000 J	42000	
NHFLA-SL27-A-SEP2020	N	Total Organic Carbon	1600	39000	39000 J	39000	
NHFLA-SL28-A-SEP2020	N	Total Organic Carbon	2100	34000	34000 J	34000	
NHFLA-SL31-A-SEP2020	N	Total Organic Carbon	2000	28000	28000 J	28000	

Modified Qualifiers for test method SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-BH39-A-SEP2020	N	Calcium	22.0	1150 N	1150 J	1150	
NHFLA-BH39-A-SEP2020	N	Manganese	1.10	351 N	351 J	351	
NHFLA-BH39-A-SEP2020	N	Nickel	2.20	44.8 N	44.8 J	44.8 J	M
NHFLA-BH39-A-SEP2020	N	Zinc	4.40	214 N	214 J	214 J	M
NHFLA-BH39-B-SEP2020	N	Calcium	24.0	3400	3400 J	3400	
NHFLA-BH39-B-SEP2020	N	Manganese	1.20	2380	2380 J	2380	
NHFLA-BH39-B-SEP2020	N	Nickel	2.40	78.2	78.2 J	78.2	
NHFLA-BH39-B-SEP2020	N	Zinc	4.90	369	369 J	369	
NHFLA-BH40-A-SEP2020	N	Arsenic	1.70	11.2	11.2 J	11.2	
NHFLA-BH40-A-SEP2020	N	Calcium	21.0	5740	5740 J	5740	
NHFLA-BH40-A-SEP2020	N	Iron	21.0	36500	36500 J	36500	
NHFLA-BH40-A-SEP2020	N	Lead	1.10	27.7	27.7 J	27.7	
NHFLA-BH40-A-SEP2020	N	Magnesium	21.0	2200	2200 J	2200	
NHFLA-BH40-A-SEP2020	N	Potassium	210	1180	1180 J	1180	
NHFLA-BH40-A-SEP2020	N	Zinc	4.20	168	168 J	168	
NHFLA-BH40-B-SEP2020	N	Arsenic	1.70	5.77	5.77 J	5.77	
NHFLA-BH40-B-SEP2020	N	Calcium	21.0	80600	80600 J	80600	
NHFLA-BH40-B-SEP2020	N	Iron	21.0	21600	21600 J	21600	
NHFLA-BH40-B-SEP2020	N	Lead	1.00	9.38	9.38 J	9.38	
NHFLA-BH40-B-SEP2020	N	Magnesium	21.0	10400	10400 J	10400	
NHFLA-BH40-B-SEP2020	N	Potassium	210	2670	2670 J	2670	
NHFLA-BH40-B-SEP2020	N	Zinc	4.20	71.4	71.4 J	71.4	
NHFLA-DUP8-SEP2020	FD	Arsenic	1.70	5.50	5.50 J	5.50	
NHFLA-DUP8-SEP2020	FD	Calcium	21.0	87400	87400 J	87400	
NHFLA-DUP8-SEP2020	FD	Iron	21.0	21400	21400 J	21400	
NHFLA-DUP8-SEP2020	FD	Lead	1.10	9.80	9.80 J	9.80	
NHFLA-DUP8-SEP2020	FD	Magnesium	21.0	11300	11300 J	11300	
NHFLA-DUP8-SEP2020	FD	Potassium	210	2860	2860 J	2860	
NHFLA-DUP8-SEP2020	FD	Zinc	4.30	68.8	68.8 J	68.8	
NHFLA-DUP9-SEP2020	FD	Calcium	11.0	4150	4150 J	4150	
NHFLA-DUP9-SEP2020	FD	Manganese	2.80	3200	3200 J	3200	
NHFLA-DUP9-SEP2020	FD	Nickel	2.20	75.8	75.8 J	75.8	
NHFLA-DUP9-SEP2020	FD	Zinc	2.20	362	362 J	362	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB17-SEP2020	EB	Lead	1.10	1.10	1.10	1.10 U	L

Modified Qualifiers for test method SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-BH37-A-SEP2020	N	Chromium, Hexavalent	1.30	0.790 U	0.790 X	0.790 U	
NHFLA-BH37-B-SEP2020	N	Chromium, Hexavalent	0.550	0.320 J	0.330 X	0.330 U	L
NHFLA-BH38-A-SEP2020	N	Chromium, Hexavalent	0.580	0.350 U	0.350 X	0.350 X	M
NHFLA-BH38-B-SEP2020	N	Chromium, Hexavalent	0.580	0.350 U	0.350 X	0.350 U	
NHFLA-BH39-A-SEP2020	N	Chromium, Hexavalent	0.580	0.350 U	0.350 X	0.350 U	
NHFLA-BH39-B-SEP2020	N	Chromium, Hexavalent	0.610	0.370 U	0.370 X	0.370 U	
NHFLA-BH40-A-SEP2020	N	Chromium, Hexavalent	0.550	0.250 J	0.250 J	0.250 J	TR
NHFLA-BH40-B-SEP2020	N	Chromium, Hexavalent	0.550	0.320 J	0.320 J	0.320 J	TR
NHFLA-DUP10-SEP2020	FD	Chromium, Hexavalent	0.540	2.00	2.00 J	2.00 J	D3
NHFLA-DUP8-SEP2020	FD	Chromium, Hexavalent	0.540	0.320 U	0.320 X	0.320 U	
NHFLA-DUP9-SEP2020	FD	Chromium, Hexavalent	0.590	0.360 U	0.360 X	0.360 U	
NHFLA-SL26-A-SEP2020	N	Chromium, Hexavalent	0.550	0.330 U	0.330 X	0.330 U	
NHFLA-SL27-A-SEP2020	N	Chromium, Hexavalent	1.10	0.680 U	0.680 X	0.680 U	
NHFLA-SL28-A-SEP2020	N	Chromium, Hexavalent	0.580	0.350 U	0.350 X	0.350 U	
NHFLA-SL31-A-SEP2020	N	Chromium, Hexavalent	0.570	0.340 U	0.340 X	0.340 UJ	D3

Modified Qualifiers for test method SW7471

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-BH40-A-SEP2020	N	Mercury	0.0370	0.0935	0.0935 J	0.0935	
NHFLA-BH40-B-SEP2020	N	Mercury	0.0360	0.0170 J	0.0170 J	0.0170 J	TR
NHFLA-DUP8-SEP2020	FD	Mercury	0.0340	0.0180 J	0.0180 J	0.0180 J	TR

Modified Qualifiers for test method SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB17-SEP2020	EB	1,2,4,5-Tetrachlorobenzene	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-EB17-SEP2020	EB	1,4-Dioxane (p-Dioxane)	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-EB17-SEP2020	EB	2,2'-Oxybis(1-chloropropane)	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-EB17-SEP2020	EB	2,4-Dinitrotoluene	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-EB17-SEP2020	EB	2,6-Dinitrotoluene	9.40	7.10 U	7.10 X	7.10 U	I
NHFLA-EB17-SEP2020	EB	2-Chloronaphthalene	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-EB17-SEP2020	EB	2-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	
NHFLA-EB17-SEP2020	EB	3,3'-Dichlorobenzidine	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-EB17-SEP2020	EB	3-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	
NHFLA-EB17-SEP2020	EB	4-Bromophenyl phenyl ether	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-EB17-SEP2020	EB	4-Chloroaniline	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-EB17-SEP2020	EB	4-Chlorophenyl phenyl ether	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-EB17-SEP2020	EB	4-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB17-SEP2020	EB	Acetophenone	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-EB17-SEP2020	EB	Atrazine	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-EB17-SEP2020	EB	Benzaldehyde	9.40	7.10 UL	7.10 X	7.10 U	
NHFLA-EB17-SEP2020	EB	Benzyl butyl phthalate	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-EB17-SEP2020	EB	Biphenyl (Diphenyl)	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-EB17-SEP2020	EB	Bis(2-chloroethoxy)methane	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-EB17-SEP2020	EB	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-EB17-SEP2020	EB	Bis(2-ethylhexyl)phthalate	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-EB17-SEP2020	EB	Caprolactam	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-EB17-SEP2020	EB	Carbazole	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-EB17-SEP2020	EB	Dibenzofuran	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-EB17-SEP2020	EB	Diethyl phthalate	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-EB17-SEP2020	EB	Dimethyl phthalate	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-EB17-SEP2020	EB	Di-n-butyl phthalate	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-EB17-SEP2020	EB	di-n-Octyl phthalate	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-EB17-SEP2020	EB	Hexachlorobenzene	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-EB17-SEP2020	EB	Hexachlorobutadiene	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-EB17-SEP2020	EB	Hexachlorocyclopentadiene	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-EB17-SEP2020	EB	Hexachloroethane	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-EB17-SEP2020	EB	Isophorone	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-EB17-SEP2020	EB	Nitrobenzene	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-EB17-SEP2020	EB	N-Nitrosodi-n-propylamine	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-EB17-SEP2020	EB	N-Nitrosodiphenylamine	9.40	7.10 U	7.10 X	7.10 U	

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Reason Code Definitions

Code	Definition
C	LCS Recovery
D	MS RPD
D3	Field Duplicate RPD
H1	Test Hold Time
H2	Prep Hold Time
I	Surrogate recovery outside project limits.
L	Lab Blank
M	MS Recovery
T	Trip Blank
TR	Trace Level Detect
V	Equipment Blank

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: BNASIM (GC/MS-SIM Analysis by SW8270)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		QC batch LCS WG287174-2 had 1 of 3 surrogates biased high. Qualification of client sample results was not required based on this QC outlier alone.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch WG287058 recovery for chrysene was biased low. The following client sample results for chrysene were qualified with J/C flag/reason codes - samples -001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015.
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			Field sample/field duplicate combinations are sample -002/-003, -005/-006, -012/-013. The field duplicate RPD summary table includes other combinations that were not used to qualify results.
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Internal standard and calibration outlier issues noted in case narrative were not addressed as part of this stage 2A validation review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data rejected during the verification process?		•		

Review Questions

Method: LYDKHN (Lloyd Kahn Method for the Determination of Total Organic Carbon in Sediment, USEPA Region II Method)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			H2 flags removed from all samples - actual hold time was 12 days versus 14 days project criteria.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			Field sample/field duplicate combinations are sample -002/-003, -005/-006, -012/-013. The field duplicate RPD summary table includes other combinations that were not used to qualify results.
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW6010 (Trace Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch NI24ICS1 had detections below the LOQ for aluminum, antimony, arsenic, calcium, chromium, iron, magnesium, sodium and vanadium. Antimony results were qualified as non-detect at the LOD with U/L flags/reason codes for samples -001, -002, -004, -005, -007, -008, -009, -010, -011, -012, -013, -014. Sodium results were qualified as non-detect at the LOD for samples -001, -004, -005, -006, -007, -008, -009, -010 and non-detect at the LOQ for samples -002, -003 and -014. QC batch PBSNI25ICS1 had detections below LOQ for nickel, sodium, zinc, magnesium, iron, chromium, calcium. Qualifications were not applied based in this QC batch data.
Were target analytes in the field blank less than MDL?		•		See method 6020 narration for summary of equipment blank detections. Aqueous equipment and trip blank detections were not used to qualify soil field samples.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -004 recoveries were biased low for antimony, arsenic, chromium, cobalt, copper, lead, nickel, potassium, silver, vanadium, barium, magnesium, zinc. Sample -004 results for these metals were qualified with J/UJ flags and M reason codes as estimated. MS recoveries for aluminum, calcium, iron, manganese were not used to qualify results based on the 4X criteria rule.
Was the MS/MSD RPD within project acceptance limits?		•		Sample -004 MS/MSD RPD was an outlier for magnesium. Sample -004 field results for this metal was qualified with a D flag.
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	

Review Questions

Method: SW6010 (Trace Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry)				
Review Questions	Yes	No	NA	Comment
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?		•		Field duplicate RPD's were outliers for calcium, chromium, lead, vanadium, cobalt and copper for parent sample/field duplicate combination -012/-013. These metals for both samples were qualified as estimated with J/UJ flags and D3 reason codes. Field sample/field duplicate combinations are sample -002/-003, -005/-006, -012/-013. The field duplicate RPD summary table includes other combinations that were not used to qualify results.
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW6020 (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC prep blank PBWMI23IMW2 had detections below the LOQ for aluminum, antimony, beryllium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, nickel, selenium, silver, sodium, thallium, vanadium. Sample -016 results for aluminum, lead, manganese, nickel, vanadium were qualified as non-detect at the LOD and qualified with U/L flags/reason codes. Lead LOQ was elevated to the level of detection accordingly.
Were target analytes in the field blank less than MDL?		•		Equipment blank detections included all above metals qualified based on method blank detections in addition to arsenic, calcium (above LOQ), potassium.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7196 (Chromium, Hexavalent (Colorimetric))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			H1 flags were removed for all samples since all were tested within project hold time criteria.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG286494 and WG287289 method blanks had detections below the LOQ. Field samples -010 and -016 were qualified non-detect at the LOD and qualified with U/L flags/reason codes.
Were target analytes in the field blank less than MDL?		•		Equipment blank had a detection below the LOQ that was qualified as non-detect at the LOQ based on method blank detection noted above.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		See below - soluble and insoluble MS analyzed as required by method instead of MS/MSD.
Were MS/MSD recoveries within project acceptance limits?		•		Sample -007 soluble and insoluble MS recoveries were biased low and below the lower reject criteria so sample -007 field result was qualified rejected with X/M flags/reason codes.
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?		•		Field duplicate/parent field sample combination RPD was outside project criteria for samples -012/-013 so these sample results were qualified estimated with J/UJ/D3 flags/reason codes. Field sample/field duplicate combinations are sample -002/-003, -005/-006, -012/-013. The field duplicate RPD summary table includes other combinations that were not used to qualify results.
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?	•			Sample -007 hexavalent chromium results based on MS recovery low bias.

Review Questions

Method: SW7470 (Mercury in Liquid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7471 (Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -006 MS recovery was biased low. Client samples -006 and -005 (parent/field dup combination) mercury results were qualified estimated with U/M flags/reason codes.
Was the MS/MSD RPD within project acceptance limits?	•			
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			Field sample/field duplicate combinations are sample -002/-003, -005/-006, -012/-013. The field duplicate RPD summary table does not include other combinations that are present in FUDSChem that should not be used to qualify results.
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW8260 (Volatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Samples -012 and -014 recoveries were biased high for 1 of 4 surrogates. All associated results were non-detect so did not require qualification based on this high bias QC outlier. Sample -013 surrogates were biased high for 1 surrogate and biased low for 1 surrogate. Client sample -013 results were all qualified as estimated with UJ/I flags/reason codes.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG287174-2 had a detection below the LOQ for methylene chloride. Qualifications were not required based on this method blank detection.
Were target analytes in the field blank less than MDL?		•		Equipment blank had detections for benzene, toluene and methylene chloride. Trip blank had a detection below the LOQ for methylene chloride. Aqueous equipment and trip blank detections were not used to qualify soil field sample results.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch WG286777 recoveries were biased low for MTBE and biased high for 4-methyl-2-pentanone. MTBE results for client samples -016, -017, -018 were qualified estimated with UJ/C flags/reason codes.
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			Field sample/field duplicate combinations are sample -002/-003, -005/-006, -012/-013. Other combinations that are present in the FUDSChem datatbase have been deleted from the field duplicate summary table in this report.
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Internal standard outlier issues noted in case narrative were not addressed as part of this stage 2A validation review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data rejected during the verification process?		•		

Review Questions

Method: SW8270 (Semivolatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Sample -016 surrogates were outliers biased low below the reject criteria for 3 of 3 acid fraction surrogates. Sample -016 acid fraction results were qualified as rejected with X/I flags. Base-neutral fraction analyte flags were removed from the database since all base-neutral surrogate recoveries were acceptable. QC batch WG286713 method blank (2 of 3 acid surrogates below lower reject criteria) and LCS (3 of 3 acid surrogates rejected) and QC batch WG286714 LCS surrogate outliers were not used to qualify field results.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG286713 method blank had a detection below the LOQ for bis-2-ethylhexylphthalate. Qualifications were not applied based on this method blank.
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch WG286713 recoveries were biased high for benzaldehyde and biased low and below the reject criteria for several acid fraction analytes. Sample -016 acid fraction results were qualified as rejected with X/C flags/reason codes as noted in the associated 8270D QC outlier LCS outlier table. QC batch WG287057 recoveries were outliers biased high for benzaldehyde and biased low for caprolactam. Client samples -011, -012, -013, -014, -015 caprolactam results were qualified estimated with UJ/L flags/reason codes. QC batch WG287179 recoveries were biased high for benzaldehyde. Qualifications were not required based on this high bias outlier.
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			Field sample/field duplicate combinations are sample -002/-003, -005/-006, -012/-013. The field duplicate RPD summary table includes other combinations that were not used to qualify results.
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Internal standard and calibration outlier issues noted in case narrative were not addressed as part of this stage 2A validation review.

Review Questions

Method: SW8270 (Semivolatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data rejected during the verification process?	•			Sample -016 acid fraction analytes based on surrogate and LCS recovery outliers.

Review Questions

Method: SW9045 (Soil pH)

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?			•	
Were target analytes in the method blank less than MDL?			•	
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			Field sample/field duplicate combinations are sample -002/-003, -005/-006, -012/-013. The field duplicate RPD summary table includes other combinations that were not used to qualify results.
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	SN7851
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Katahdin Analytical Services, Westbrook, ME
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	January 27, 2021

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	BNASIM	LYDKHN	SW6010	SW6020	SW7196	SW7470	SW7471	SW8260	SW8270	SW9045
NHFLA-SL29-A-SEP2020	SN7851-1	Solid	Field Sample/N	X	X	X		X		X	X	X	X
NHFLA-EB18-SEP2020	SN7851-2	Water	Equipment Blank/EB	X			X	X	X		X	X	
NHFLA-TB21-SEP2020	SN7851-3	Water	Trip Blank/TB								X		

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Katahdin Analytical Services, Westbrook, ME and were reported under sample delivery group (SDG) SN7851. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Extracted Internal Standard
- Lab Blank
- LCS Recovery
- LCS RPD
- MS Recovery
- MS RPD
- Prep Hold Time
- Surrogate
- Test Hold Time
- Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 90 results (26.71%) out of the 337 results (sample and field QC samples) reported are qualified based on review and 15 results (4.45%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Hydrazine field sample results and QC are included in this SDG but electronic data is in separate SDG (15140-1). Please reference validation report 15140-1 for data qualification summary.

Analytical Method	Data Reviewer Comment
BNASIM	No additional comments; see Checklist for detail.
LYDKHN	No additional comments; see Checklist for detail.
SW6010	No additional comments; see Checklist for detail.
SW6020	No additional comments; see Checklist for detail.
SW7196	No additional comments; see Checklist for detail.
SW7470	No additional comments; see Checklist for detail.
SW7471	No additional comments; see Checklist for detail.
SW8260	No additional comments; see Checklist for detail.
SW8270	No additional comments; see Checklist for detail.
SW9045	No additional comments; see Checklist for detail.

Jim Tomalia

January 27, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method LYDKHN, Prep Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of extraction found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-SL29-A-SEP2020 (N)/ SN7851-1		5.810	< 0	< 0	days	J/X	H2	Prep Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6010, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBSNI22ICS1 (LB)/ PBSNI22ICS1	Nickel	0.05800	< 0.044	< 1	mg/kg	U/None	L	
PBSNI22ICS1 (LB)/ PBSNI22ICS1	Chromium	0.09600	< 0.026	< 1	mg/kg	U/None	L	
PBSNI22ICS1 (LB)/ PBSNI22ICS1	Magnesium	1.100	< 0.68	< 10	mg/kg	U/None	L	
PBSNI22ICS1 (LB)/ PBSNI22ICS1	Aluminum	1.800	< 0.71	< 30	mg/kg	U/None	L	
PBSNI22ICS1 (LB)/ PBSNI22ICS1	Calcium	2.000	< 1.8	< 10	mg/kg	U/None	L	
PBSNI22ICS1 (LB)/ PBSNI22ICS1	Sodium	2.400	< 1.5	< 100	mg/kg	U/None	L	
PBSNI22ICS1 (LB)/ PBSNI22ICS1	Iron	2.500	< 1.4	< 10	mg/kg	U/None	L	
PBSNI22ICS1 (LB)/ PBSNI22ICS1	Potassium	7.700	< 2.9	< 100	mg/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6010, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-SL29-A-SEP2020 (SD)/ SN7851-001P	Aluminum	-705.9	74 - 119	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-SL29-A-SEP2020 (SD)/ SN7851-001P	Potassium	38.06	81 - 116	30 - 125	percent	J/UJ	M	
NHFLA-SL29-A-SEP2020 (SD)/ SN7851-001P	Arsenic	114.5	82 - 111	30 - 125	percent	J/None	M	
NHFLA-SL29-A-SEP2020 (SD)/ SN7851-001P	Copper	132.3	81 - 117	30 - 125	percent	J/None	M	
NHFLA-SL29-A-SEP2020 (SD)/ SN7851-001P	Lead	148.8	81 - 112	30 - 125	percent	J/None	M	
NHFLA-SL29-A-SEP2020 (SD)/ SN7851-001P	Manganese	157.0	84 - 114	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-SL29-A-SEP2020 (SD)/ SN7851-001P	Antimony	31.26	79 - 114	30 - 125	percent	J/UJ	M	
NHFLA-SL29-A-SEP2020 (SD)/ SN7851-001P	Iron	4444	81 - 118	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-SL29-A-SEP2020 (SD)/ SN7851-001P	Magnesium	60.05	78 - 115	30 - 125	percent	J/UJ	M	Spike amount Insignificant
NHFLA-SL29-A-SEP2020 (SD)/ SN7851-001P	Calcium	7000	81 - 116	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-SL29-A-SEP2020 (MS)/ SN7851-001S	Lead	140.2	81 - 112	30 - 125	percent	J/None	M	
NHFLA-SL29-A-SEP2020 (MS)/ SN7851-001S	Magnesium	191.5	78 - 115	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-SL29-A-SEP2020 (MS)/ SN7851-001S	Antimony	25.92	79 - 114	30 - 125	percent	J/X	M	
NHFLA-SL29-A-SEP2020 (MS)/ SN7851-001S	Aluminum	277.8	74 - 119	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-SL29-A-SEP2020 (MS)/ SN7851-001S	Manganese	412.0	84 - 114	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-SL29-A-SEP2020 (MS)/ SN7851-001S	Thallium	68.19	83 - 111	30 - 125	percent	J/UJ	M	
NHFLA-SL29-A-SEP2020 (MS)/ SN7851-001S	Nickel	81.29	83 - 113	30 - 125	percent	J/UJ	M	

Quality Control Outliers for test method SW6010, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-SL29-A-SEP2020 (MS)/ SN7851-001S	Iron	-111.1	81 - 118	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-SL29-A-SEP2020 (MS)/ SN7851-001S	Calcium	2773	81 - 116	30 - 125	percent	J/None	M	Spike amount Insignificant

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-SL29-A-SEP2020	N	Arsenic	0.700	7.97 N	7.97 J	+	mg/kg	M
NHFLA-SL29-A-SEP2020	N	Copper	2.20	30.1 N	30.1 J	+	mg/kg	M
NHFLA-SL29-A-SEP2020	N	Potassium	87.0	2100 N*	2100 J	-	mg/kg	M/D
NHFLA-SL29-A-SEP2020	N	Antimony	0.700	0.440 UN	0.440 X		mg/kg	M
NHFLA-SL29-A-SEP2020	N	Lead	0.440	27.5 N	27.5 J	+	mg/kg	M
NHFLA-SL29-A-SEP2020	N	Nickel	0.870	29.9 N	29.9 J	-	mg/kg	M
NHFLA-SL29-A-SEP2020	N	Thallium	1.30	0.440 UN*	0.440 UJ		mg/kg	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6010, MS RPD

The objective of matrix spikes/matrix spike duplicates (MS/MSD) RPD analysis is to demonstrate acceptable method precision by the laboratory at the time of analysis. MS/MSD analyses are also performed to generate data that determines the long-term precision of the analytical method on various matrices. Non-homogenous samples can impact the apparent method precision. Summary forms were evaluated and compared to electronic data deliverables. Matrix spikes/matrix spike duplicates results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-SL29-A-SEP2020 (SD)/ SN7851-001P	Potassium	22.95	< 20	< 20	rpd	J/UJ	D	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS RPD for SW6010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-SL29-A-SEP2020	N	Potassium	87.0	2100 N*	2100 J	-	mg/kg	M/D

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB18-SEP2020 (EB)/ SN7851-2	Cadmium	0.04500	< 0.029	< 1	ug/l	U/None	V	
NHFLA-EB18-SEP2020 (EB)/ SN7851-2	Cobalt	0.09500	< 0.06	< 1	ug/l	U/None	V	
NHFLA-EB18-SEP2020 (EB)/ SN7851-2	Lead	0.09800	< 0.075	< 1	ug/l	U/None	V	
NHFLA-EB18-SEP2020 (EB)/ SN7851-2	Thallium	0.1300	< 0.06	< 1	ug/l	U/None	V	
NHFLA-EB18-SEP2020 (EB)/ SN7851-2	Antimony	0.1500	< 0.055	< 1	ug/l	U/None	V	
NHFLA-EB18-SEP2020 (EB)/ SN7851-2	Chromium	0.2800	< 0.22	< 5	ug/l	U/None	V	
NHFLA-EB18-SEP2020 (EB)/ SN7851-2	Aluminum	11.00	< 4.4	< 100	ug/l	U/None	V	
NHFLA-EB18-SEP2020 (EB)/ SN7851-2	Iron	15.00	< 13	< 100	ug/l	U/None	V	
NHFLA-EB18-SEP2020 (EB)/ SN7851-2	Calcium	190.0	< 21	< 100	ug/l	U/None	V	
NHFLA-EB18-SEP2020 (EB)/ SN7851-2	Vanadium	2.500	< 0.5	< 5	ug/l	U/None	V	
NHFLA-EB18-SEP2020 (EB)/ SN7851-2	Magnesium	237.0	< 8	< 100	ug/l	U/None	V	
NHFLA-EB18-SEP2020 (EB)/ SN7851-2	Potassium	311.0	< 31	< 1000	ug/l	U/None	V	
NHFLA-EB18-SEP2020 (EB)/ SN7851-2	Barium	0.4000	< 0.27	< 2	ug/l	U/None	V	
NHFLA-EB18-SEP2020 (EB)/ SN7851-2	Manganese	0.6500	< 0.35	< 2	ug/l	U/None	V	
NHFLA-EB18-SEP2020 (EB)/ SN7851-2	Copper	0.8100	< 0.19	< 3	ug/l	U/None	V	
NHFLA-EB18-SEP2020 (EB)/ SN7851-2	Sodium	120.0	< 19	< 1000	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Cadmium	0.06900	< 0.03	< 1	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Beryllium	0.1100	< 0.034	< 1	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Antimony	0.1400	< 0.054	< 1	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Lead	0.1400	< 0.074	< 1	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Thallium	0.2000	< 0.061	< 1	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Cobalt	0.2100	< 0.061	< 1	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Selenium	0.2500	< 0.19	< 5	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Chromium	0.5500	< 0.22	< 5	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Vanadium	0.5800	< 0.51	< 5	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Nickel	0.6200	< 0.15	< 2	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Barium	1.600	< 0.27	< 2	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Magnesium	19.00	< 7.8	< 100	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Manganese	2.800	< 0.35	< 2	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Aluminum	26.00	< 4.4	< 100	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Iron	56.00	< 13	< 100	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Sodium	84.00	< 19	< 1000	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Zinc	19.00	< 3.9	< 10	ug/l	U/None	L	
PBWNI22IMW2 (LB)/ PBWNI22IMW2	Copper	4.130	< 0.18	< 3	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB18-SEP2020	EB	Aluminum	100	11.0 J	40.0 U		ug/l	L
NHFLA-EB18-SEP2020	EB	Antimony	1.00	0.150 J	0.500 U		ug/l	L
NHFLA-EB18-SEP2020	EB	Barium	2.00	0.400 JB	1.00 U		ug/l	L
NHFLA-EB18-SEP2020	EB	Cadmium	1.00	0.0450 J	0.200 U		ug/l	L
NHFLA-EB18-SEP2020	EB	Chromium	5.00	0.280 J	4.00 U		ug/l	L

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB18-SEP2020	EB	Cobalt	1.00	0.0950 J	0.300 U		ug/l	L
NHFLA-EB18-SEP2020	EB	Copper	3.00	0.810 JB	2.00 U		ug/l	L
NHFLA-EB18-SEP2020	EB	Iron	100	15.0 J	60.0 U		ug/l	L
NHFLA-EB18-SEP2020	EB	Lead	1.00	0.0980 J	0.500 U		ug/l	L
NHFLA-EB18-SEP2020	EB	Manganese	2.00	0.650 JB	1.00 U		ug/l	L
NHFLA-EB18-SEP2020	EB	Sodium	1000	120 J	400 U		ug/l	L
NHFLA-EB18-SEP2020	EB	Thallium	1.00	0.130 J	0.400 U		ug/l	L
NHFLA-EB18-SEP2020	EB	Vanadium	5.00	2.50 J	4.00 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB18-SEP2020 (EB)/ SN7851-2	Chromium, Hexavalent	0.006700	< 0.00076	< 0.025	mg/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7196, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG286798-1 (LB)/ WG286798-1	Chromium, Hexavalent	0.003800	< 0.00076	< 0.025	mg/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB18-SEP2020	EB	Chromium, Hexavalent	0.0250	0.00670 J	0.0125 U		mg/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG287289-1 (LB)/ WG287289-1	Chromium, Hexavalent	0.2800	< 0.14	< 0.48	mg/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB18-SEP2020 (EB)/ SN7851-2	Toluene	0.4500	< 0.27	< 1	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG287174-2 (LB)/ WG287174-2	Methylene chloride	10.00	< 7.9	< 25	ug/kg	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG287377-1 (BS)/ WG287377-1	Methylene chloride	69.00	74 - 124	10 - 124	percent	J/UJ	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB18-SEP2020	EB	Methylene chloride	5.00	2.50 UL	2.50 UJ		ug/l	C/I
NHFLA-TB21-SEP2020	TB	Methylene chloride	5.00	2.50 UL	2.50 UJ		ug/l	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB18-SEP2020 (EB)/ SN7851-2	1-Bromo-4-fluorobenzene (4-Bromofluorobenzene)	84.10	85 - 114	10 - 114	percent	J/UJ	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB18-SEP2020	EB	1,1,1-Trichloroethane	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	1,1,2-Trichloro-1,2,2-trifluoroethane	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	1,1,2-Trichloroethane	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	1,1-Dichloroethane	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	1,1-Dichloroethene	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	1,2,3-Trichlorobenzene	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	1,2,4-Trichlorobenzene	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	1,2-Dibromo-3-chloropropane	1.00	0.750 U	0.750 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	1,2-Dibromoethane (EDB)	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	1,2-Dichlorobenzene	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	1,2-Dichloroethane	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	1,2-Dichloropropane	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	1,3-Dichlorobenzene	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	1,4-Dichlorobenzene	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	2-Butanone (MEK)	5.00	2.50 U	2.50 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	2-Hexanone	5.00	2.50 U	2.50 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Acetone	5.00	2.50 U	2.50 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Benzene	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Bromochloromethane	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Bromodichloromethane	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Bromoform	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Bromomethane	2.00	1.00 U	1.00 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Carbon disulfide	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Carbon tetrachloride	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Chlorobenzene	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Chloroethane	2.00	1.00 U	1.00 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Chloroform	1.00	0.500 U	0.500 UJ		ug/l	I

Qualified Results associated with the Surrogate for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB18-SEP2020	EB	Chloromethane	2.00	1.00 U	1.00 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Cyclohexane	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Dibromochloromethane	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Dichlorodifluoromethane	2.00	1.00 U	1.00 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Ethylbenzene	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Isopropylbenzene (Cumene)	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	m,p-Xylene	2.00	1.00 U	1.00 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Methyl acetate	1.00	0.750 U	0.750 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Methyl tert-butyl ether (MTBE)	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Methylcyclohexane	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Methylene chloride	5.00	2.50 UL	2.50 UJ		ug/l	C/I
NHFLA-EB18-SEP2020	EB	o-Xylene	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Styrene	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Toluene	1.00	0.450 J	0.450 J	-	ug/l	I/TR
NHFLA-EB18-SEP2020	EB	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Trichloroethene (TCE)	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Trichlorofluoromethane	2.00	1.00 U	1.00 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Vinyl chloride	2.00	1.00 U	1.00 UJ		ug/l	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-SL29-A-SEP2020 (N)/ SN7851-1	Dibromofluoromethane	123.0	78 - 119	10 - 119	percent	J/None	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB18-SEP2020 (EB)/ SN7851-2	Diethyl phthalate	3.000	< 1.9	< 9.6	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG286713-1 (LB)/ WG286713-1	Bis(2-ethylhexyl)phthalate	2.700	< 1.7	< 10	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG286713-2 (BS)/ WG286713-2	4-Nitrophenol	0.000	10 - 114	10 - 114	percent	J/X	C	
WG286713-2 (BS)/ WG286713-2	2,4-Dinitrophenol	0.000	12 - 143	10 - 143	percent	J/X	C	
WG286713-2 (BS)/ WG286713-2	Pentachlorophenol	0.000	35 - 138	10 - 138	percent	J/X	C	
WG286713-2 (BS)/ WG286713-2	4,6-Dinitro-2-methylphenol	0.000	44 - 137	10 - 137	percent	J/X	C	
WG286713-2 (BS)/ WG286713-2	2,4,6-Trichlorophenol	0.000	50 - 125	10 - 125	percent	J/X	C	
WG286713-2 (BS)/ WG286713-2	2,4,5-Trichlorophenol	0.000	53 - 123	10 - 123	percent	J/X	C	
WG286713-2 (BS)/ WG286713-2	Cresols, m- & p-	24.10	29 - 110	10 - 110	percent	J/UJ	C	
WG286713-2 (BS)/ WG286713-2	2-Nitrophenol	3.110	47 - 123	10 - 123	percent	J/X	C	
WG286713-2 (BS)/ WG286713-2	Phenol	3.300	10 - 78	10 - 78	percent	J/X	C	
WG286713-2 (BS)/ WG286713-2	2,4-Dichlorophenol	3.560	47 - 121	10 - 121	percent	J/X	C	
WG286713-2 (BS)/ WG286713-2	4-Chloro-3-methylphenol	33.60	52 - 119	10 - 119	percent	J/UJ	C	
WG286713-2 (BS)/ WG286713-2	2-Chlorophenol	4.300	38 - 117	10 - 117	percent	J/X	C	
WG286713-2 (BS)/ WG286713-2	Benzaldehyde	642.0	10 - 189	10 - 189	percent	J/None	C	
WG287179-2 (BS)/ WG287179-2	Benzaldehyde	1292	10 - 189	10 - 189	percent	J/None	C	
WG287179-2 (BS)/ WG287179-2	Caprolactam	9.780	10 - 86	10 - 86	percent	J/X	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB18-SEP2020	EB	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	2,4,6-Trichlorophenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	2,4-Dichlorophenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	2-Chlorophenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	2-Nitrophenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	4-Chloro-3-methylphenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	Cresols, m- & p-	9.60	7.20 UL	7.20 X		ug/l	C/I

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB18-SEP2020	EB	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	Phenol	9.60	7.20 UL	7.20 X		ug/l	C/I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG286719-2 (BS)/ WG286719-2	Benzaldehyde	515.6	10 - 134	10 - 134	percent	J/None	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB18-SEP2020 (EB)/ SN7851-2	2-Fluorophenol	0.000	19 - 119	10 - 119	percent	J/X	I	
NHFLA-EB18-SEP2020 (EB)/ SN7851-2	2,4,6-Tribromophenol	2.690	43 - 140	10 - 140	percent	J/X	I	
NHFLA-EB18-SEP2020 (EB)/ SN7851-2	Terphenyl-d14	49.90	50 - 134	10 - 134	percent	J/UJ	I	
NHFLA-EB18-SEP2020 (EB)/ SN7851-2	Phenol-d6	6.610	10 - 90	10 - 90	percent	J/X	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB18-SEP2020	EB	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	2,4,6-Trichlorophenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	2,4-Dichlorophenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	2,6-Dinitrotoluene	9.60	7.20 U	7.20 U		ug/l	I
NHFLA-EB18-SEP2020	EB	2-Chlorophenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	2-Methylphenol (o-Cresol)	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-EB18-SEP2020	EB	2-Nitrophenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	4-Chloro-3-methylphenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	Cresols, m- & p-	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	Dibenzofuran	9.60	7.20 U	7.20 U		ug/l	I
NHFLA-EB18-SEP2020	EB	Di-n-butyl phthalate	9.60	7.20 U	7.20 U		ug/l	I
NHFLA-EB18-SEP2020	EB	di-n-Octyl phthalate	9.60	7.20 U	7.20 U		ug/l	I
NHFLA-EB18-SEP2020	EB	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	Phenol	9.60	7.20 UL	7.20 X		ug/l	C/I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Table of All Qualified Results

Test Method: SW6010	Extraction Method: SW3050							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-SL29-A-SEP2020	N	Arsenic	0.700	7.97 N	7.97 J	+	mg/kg	M
NHFLA-SL29-A-SEP2020	N	Copper	2.20	30.1 N	30.1 J	+	mg/kg	M
NHFLA-SL29-A-SEP2020	N	Potassium	87.0	2100 N*	2100 J	-	mg/kg	M/D
NHFLA-SL29-A-SEP2020	N	Antimony	0.700	0.440 UN	0.440 X		mg/kg	M
NHFLA-SL29-A-SEP2020	N	Lead	0.440	27.5 N	27.5 J	+	mg/kg	M
NHFLA-SL29-A-SEP2020	N	Nickel	0.870	29.9 N	29.9 J	-	mg/kg	M
NHFLA-SL29-A-SEP2020	N	Thallium	1.30	0.440 UN*	0.440 UJ		mg/kg	M

Test Method: SW6020	Extraction Method: SW3010							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB18-SEP2020	EB	Aluminum	100	11.0 J	40.0 U		ug/l	L
NHFLA-EB18-SEP2020	EB	Antimony	1.00	0.150 J	0.500 U		ug/l	L
NHFLA-EB18-SEP2020	EB	Barium	2.00	0.400 JB	1.00 U		ug/l	L
NHFLA-EB18-SEP2020	EB	Cadmium	1.00	0.0450 J	0.200 U		ug/l	L
NHFLA-EB18-SEP2020	EB	Chromium	5.00	0.280 J	4.00 U		ug/l	L
NHFLA-EB18-SEP2020	EB	Cobalt	1.00	0.0950 J	0.300 U		ug/l	L
NHFLA-EB18-SEP2020	EB	Copper	3.00	0.810 JB	2.00 U		ug/l	L
NHFLA-EB18-SEP2020	EB	Iron	100	15.0 J	60.0 U		ug/l	L
NHFLA-EB18-SEP2020	EB	Lead	1.00	0.0980 J	0.500 U		ug/l	L
NHFLA-EB18-SEP2020	EB	Manganese	2.00	0.650 JB	1.00 U		ug/l	L
NHFLA-EB18-SEP2020	EB	Sodium	1000	120 J	400 U		ug/l	L
NHFLA-EB18-SEP2020	EB	Thallium	1.00	0.130 J	0.400 U		ug/l	L
NHFLA-EB18-SEP2020	EB	Vanadium	5.00	2.50 J	4.00 U		ug/l	L

Test Method: SW7196	Extraction Method: NONE							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB18-SEP2020	EB	Chromium, Hexavalent	0.0250	0.00670 J	0.0125 U		mg/l	L

Test Method: SW8260	Extraction Method: SW5030							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB18-SEP2020	EB	1,1,1-Trichloroethane	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	1,1,2-Trichloro-1,2,2-trifluoroethane	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	1,1,2-Trichloroethane	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	1,1-Dichloroethane	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	1,1-Dichloroethene	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	1,2,3-Trichlorobenzene	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	1,2,4-Trichlorobenzene	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	1,2-Dibromo-3-chloropropane	1.00	0.750 U	0.750 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	1,2-Dibromoethane (EDB)	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	1,2-Dichlorobenzene	1.00	0.500 U	0.500 UJ		ug/l	I

Table of All Qualified Results

Test Method: SW8260	Extraction Method: SW5030							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB18-SEP2020	EB	1,2-Dichloroethane	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	1,2-Dichloropropane	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	1,3-Dichlorobenzene	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	1,4-Dichlorobenzene	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	2-Butanone (MEK)	5.00	2.50 U	2.50 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	2-Hexanone	5.00	2.50 U	2.50 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Acetone	5.00	2.50 U	2.50 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Benzene	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Bromochloromethane	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Bromodichloromethane	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Bromoform	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Bromomethane	2.00	1.00 U	1.00 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Carbon disulfide	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Carbon tetrachloride	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Chlorobenzene	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Chloroethane	2.00	1.00 U	1.00 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Chloroform	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Chloromethane	2.00	1.00 U	1.00 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Cyclohexane	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Dibromochloromethane	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Dichlorodifluoromethane	2.00	1.00 U	1.00 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Ethylbenzene	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Isopropylbenzene (Cumene)	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	m,p-Xylene	2.00	1.00 U	1.00 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Methyl acetate	1.00	0.750 U	0.750 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Methyl tert-butyl ether (MTBE)	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Methylcyclohexane	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	o-Xylene	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Styrene	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Toluene	1.00	0.450 J	0.450 J	-	ug/l	I/TR
NHFLA-EB18-SEP2020	EB	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Trichloroethene (TCE)	1.00	0.500 U	0.500 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Trichlorofluoromethane	2.00	1.00 U	1.00 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Vinyl chloride	2.00	1.00 U	1.00 UJ		ug/l	I
NHFLA-EB18-SEP2020	EB	Methylene chloride	5.00	2.50 UL	2.50 UJ		ug/l	C/I

Table of All Qualified Results

Test Method: SW8260	Extraction Method: SW5030							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-TB21-SEP2020	TB	Methylene chloride	5.00	2.50 UL	2.50 UJ		ug/l	C

Test Method: SW8270	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB18-SEP2020	EB	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	2,4,6-Trichlorophenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	2,4-Dichlorophenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	2,6-Dinitrotoluene	9.60	7.20 U	7.20 U		ug/l	I
NHFLA-EB18-SEP2020	EB	2-Chlorophenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	2-Methylphenol (o-Cresol)	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-EB18-SEP2020	EB	2-Nitrophenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	4-Chloro-3-methylphenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	Cresols, m- & p-	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	Dibenzofuran	9.60	7.20 U	7.20 U		ug/l	I
NHFLA-EB18-SEP2020	EB	Di-n-butyl phthalate	9.60	7.20 U	7.20 U		ug/l	I
NHFLA-EB18-SEP2020	EB	di-n-Octyl phthalate	9.60	7.20 U	7.20 U		ug/l	I
NHFLA-EB18-SEP2020	EB	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	Phenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB18-SEP2020	EB	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method LYDKHN

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-SL29-A-SEP2020	N	Total Organic Carbon	2100	46000	46000 J	46000	

Modified Qualifiers for test method SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB18-SEP2020	EB	1,2,4,5-Tetrachlorobenzene	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB18-SEP2020	EB	1,4-Dioxane (p-Dioxane)	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB18-SEP2020	EB	2,2'-Oxybis(1-chloropropane)	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB18-SEP2020	EB	2,4-Dimethylphenol	9.60	7.20 U	7.20 X	7.20 X	
NHFLA-EB18-SEP2020	EB	2,4-Dinitrotoluene	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB18-SEP2020	EB	2,6-Dinitrotoluene	9.60	7.20 U	7.20 X	7.20 U	I
NHFLA-EB18-SEP2020	EB	2-Chloronaphthalene	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB18-SEP2020	EB	2-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	
NHFLA-EB18-SEP2020	EB	3,3'-Dichlorobenzidine	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB18-SEP2020	EB	3-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	
NHFLA-EB18-SEP2020	EB	4-Bromophenyl phenyl ether	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB18-SEP2020	EB	4-Chloroaniline	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB18-SEP2020	EB	4-Chlorophenyl phenyl ether	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB18-SEP2020	EB	4-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	
NHFLA-EB18-SEP2020	EB	Acetophenone	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB18-SEP2020	EB	Atrazine	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB18-SEP2020	EB	Benzaldehyde	9.60	7.20 UL	7.20 X	7.20 U	
NHFLA-EB18-SEP2020	EB	Benzyl butyl phthalate	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB18-SEP2020	EB	Biphenyl (Diphenyl)	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB18-SEP2020	EB	Bis(2-chloroethoxy)methane	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB18-SEP2020	EB	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB18-SEP2020	EB	Bis(2-ethylhexyl)phthalate	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB18-SEP2020	EB	Caprolactam	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB18-SEP2020	EB	Carbazole	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB18-SEP2020	EB	Dibenzofuran	9.60	7.20 U	7.20 X	7.20 U	I
NHFLA-EB18-SEP2020	EB	Diethyl phthalate	9.60	3.00 J	3.00 J	3.00 J	TR
NHFLA-EB18-SEP2020	EB	Dimethyl phthalate	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB18-SEP2020	EB	Di-n-butyl phthalate	9.60	7.20 U	7.20 X	7.20 U	I
NHFLA-EB18-SEP2020	EB	di-n-Octyl phthalate	9.60	7.20 U	7.20 X	7.20 U	I
NHFLA-EB18-SEP2020	EB	Hexachlorobenzene	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB18-SEP2020	EB	Hexachlorobutadiene	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB18-SEP2020	EB	Hexachlorocyclopentadiene	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB18-SEP2020	EB	Hexachloroethane	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB18-SEP2020	EB	Isophorone	9.60	7.20 U	7.20 X	7.20 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB18-SEP2020	EB	Nitrobenzene	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB18-SEP2020	EB	N-Nitrosodi-n-propylamine	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB18-SEP2020	EB	N-Nitrosodiphenylamine	9.60	7.20 U	7.20 X	7.20 U	

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Rejected Results

Test Method: SW6010	Extraction Method: SW3050	Leach Method: NONE							
FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-SL29-A-SEP2020	SN7851-1	S	N	Antimony	0.700	0.440 UN	0.440 X	mg/kg	M

Test Method: SW8270	Extraction Method: SW3510	Leach Method: NONE							
FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-EB18-SEP2020	SN7851-2	W	EB	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-EB18-SEP2020	SN7851-2	W	EB	2,4,6-Trichlorophenol	9.60	7.20 UL	7.20 X	ug/l	C/I
NHFLA-EB18-SEP2020	SN7851-2	W	EB	2,4-Dichlorophenol	9.60	7.20 UL	7.20 X	ug/l	C/I
NHFLA-EB18-SEP2020	SN7851-2	W	EB	2,4-Dimethylphenol	9.60	7.20 U	7.20 X	ug/l	
NHFLA-EB18-SEP2020	SN7851-2	W	EB	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-EB18-SEP2020	SN7851-2	W	EB	2-Chlorophenol	9.60	7.20 UL	7.20 X	ug/l	C/I
NHFLA-EB18-SEP2020	SN7851-2	W	EB	2-Methylphenol (o-Cresol)	9.60	7.20 U	7.20 X	ug/l	I
NHFLA-EB18-SEP2020	SN7851-2	W	EB	2-Nitrophenol	9.60	7.20 UL	7.20 X	ug/l	C/I
NHFLA-EB18-SEP2020	SN7851-2	W	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-EB18-SEP2020	SN7851-2	W	EB	4-Chloro-3-methylphenol	9.60	7.20 UL	7.20 X	ug/l	C/I
NHFLA-EB18-SEP2020	SN7851-2	W	EB	4-Nitrophenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-EB18-SEP2020	SN7851-2	W	EB	Cresols, m- & p-	9.60	7.20 UL	7.20 X	ug/l	C/I
NHFLA-EB18-SEP2020	SN7851-2	W	EB	Pentachlorophenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-EB18-SEP2020	SN7851-2	W	EB	Phenol	9.60	7.20 UL	7.20 X	ug/l	C/I

Automated Data Review Detail Report for SN7851
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
BNASIM/SW3550/NONE	1	2
LYDKHN/METHOD/NONE	1	1
SW6010/SW3050/NONE	1	6
SW7196/SW3060/NONE	1	1
SW7471/METHOD/NONE	1	1
SW8270/SW3550/NONE	1	30

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
BNASIM/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	4	Benzo(a)pyrene	680	16.0	48.0	96.0	36.666666	ug/kg
BNASIM/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	4	Dibenz(a,h)anthracene	110	8.60	48.0	96.0	36.666666	ug/kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
LYDKHN/METHOD/NONE	NHFLA-SL29-A-SEP2020	N	1	Total Organic Carbon	46000	450	1600	2100	2000	ug/g

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6010/SW3050/NONE	NHFLA-SL29-A-SEP2020	N	1	Antimony	0.440 X	0.0610	0.440	0.700	0.09	mg/Kg
SW6010/SW3050/NONE	NHFLA-SL29-A-SEP2020	N	1	Arsenic	7.97 J	0.0590	0.440	0.700	0.226666	mg/Kg
SW6010/SW3050/NONE	NHFLA-SL29-A-SEP2020	N	1	Cadmium	0.396 J	0.00690	0.260	0.440	0.119999	mg/Kg
SW6010/SW3050/NONE	NHFLA-SL29-A-SEP2020	N	1	Cobalt	8.41	0.0250	0.350	0.870	0.766666	mg/Kg
SW6010/SW3050/NONE	NHFLA-SL29-A-SEP2020	N	1	Selenium	1.00	0.150	0.610	0.870	0.173333	mg/Kg
SW6010/SW3050/NONE	NHFLA-SL29-A-SEP2020	N	1	Thallium	0.440 UJ	0.0750	0.440	1.30	0.016666	mg/Kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7196/SW3060/NONE	NHFLA-SL29-A-SEP2020	N	1.2	Chromium, Hexavalent	0.350 U	0.180	0.350	0.590	0.4	mg/kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW7471/METHOD/NONE	NHFLA-SL29-A-SEP2020	N	1	Mercury	0.196	0.00550	0.0180	0.0350	0.033	mg/Kg

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	1	1,2,4,5-Tetrachlorobenzene	300 U	160	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	1	2,4-Dichlorophenol	300 U	180	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	1	2,4-Dimethylphenol	300 U	200	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	1	2,4-Dinitrophenol	740 U	450	740	980	820	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	1	2,6-Dinitrotoluene	300 U	95.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	1	2-Chlorophenol	300 U	200	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	1	2-Methylphenol (o-Cresol)	300 U	240	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	1	2-Nitroaniline	740 U	90.0	740	980	820	ug/kg
SW8270/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	1	3,3'-Dichlorobenzidine	300 U	140	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	1	4,6-Dinitro-2-methylphenol	740 U	400	740	980	820	ug/kg
SW8270/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	1	4-Chloroaniline	300 U	140	300	400	333.333 333	ug/kg
SW8270/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	1	Atrazine	300 U	110	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	1	Benzyl butyl phthalate	300 U	110	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	1	Biphenyl (Diphenyl)	300 U	87.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	300 U	97.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	1	bis(2-Ethylhexyl) phthalate	300 U	120	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	1	Carbazole	300 U	130	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	1	Dibenzofuran	300 U	95.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	1	Diethyl phthalate	300 U	96.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	1	Dimethyl phthalate	300 U	93.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	1	Di-n-butyl phthalate	300 U	120	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	1	Di-n-octyl phthalate	300 U	250	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	1	Hexachlorobenzene	300 U	98.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	1	Hexachlorobutadiene	300 U	99.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	1	Hexachlorocyclopentadiene	300 U	98.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	1	Hexachloroethane	300 U	120	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	1	n-Nitrosodi-n-propylamine	300 U	99.0	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	1	n-Nitrosodiphenylamine	300 U	260	300	400	330	ug/kg
SW8270/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	1	Pentachlorophenol	740 U	280	740	980	820	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Automated Data Review Detail Report for SN7851
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3550/NONE	NHFLA-SL29-A-SEP2020	N	1	Phenol	300 U	190	300	400	330	ug/kg

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
C	LCS Recovery
D	MS RPD
H2	Prep Hold Time
I	Surrogate recovery outside project limits.
L	Lab Blank
M	MS Recovery
TR	Trace Level Detect
V	Equipment Blank

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: BNASIM (GC/MS-SIM Analysis by SW8270)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			QC batch WG286764-2 LCS had 1 of 3 surrogates biased high. Qualifications were not required based on this QC surrogate recovery outlier.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		ICV and CCV outlier issues noted in case narrative were not addressed as part of this stage 2A validation review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data rejected during the verification process?		•		

Review Questions

Method: LYDKHN (Lloyd Kahn Method for the Determination of Total Organic Carbon in Sediment, USEPA Region II Method)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			Hold time flags H2 were removed for soil sample since it was analyzed with project criteria 6 days versus 14 days required.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW6010 (Trace Metals by Inductively Coupled Plasma/Atomic Emission Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch NI22ICS1 had detections below the LOQ for aluminum, calcium, chromium, iron, magnesium, nickel, potassium, sodium. No qualifications were required based on these method blank detections.
Were target analytes in the field blank less than MDL?		•		See method 6020 narrative. Water equipment blank detections were not used to qualify soil results.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -001 recoveries were biased low for antimony (below reject limit), potassium, nickel and thallium and biased high for arsenic, copper and lead. Spikes were below significant levels (4X rule) for aluminum, calcium, iron, magnesium, manganese so were not used to qualify field results. Sample -001 results for antimony were qualified as rejected with X/M flag/reason code. Sample -001 results for potassium, nickel, arsenic, copper and lead were qualified estimated with J/M flags/reason codes. Sample -001 thallium result was qualified estimated with UJ/M.
Was the MS/MSD RPD within project acceptance limits?		•		Sample -001 MS/MSD RPD outliers for potassium and thallium. Sample -001 potassium result qualified as estimated with J/D flag/reason code. Thallium was non-detect so did not require flag for RPD outlier.
Were the post spike recoveries within project acceptance limits?		•		Calcium and Magnesium PDS recoveries were outliers for sample -001 but were not used to qualify results based on 4X rule criteria.
Were the serial dilution RPD values within project acceptance limits?		•		Calcium was SD outlier for sample -001.
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?	•			Sample -001 antimony results due to MS low bias below reject criteria.

Review Questions

Method: SW6020 (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WNI22IMW2 - MULTIPLE DETECTIONS below LOQ. Sample -002 results for following were qualified U/L non-detect at the LOD - aluminum, antimony, barium, cadmium, chromium, cobalt, copper, iron, lead, manganese, sodium, thallium, vanadium.
Were target analytes in the field blank less than MDL?		•		See above for detections qualified as non-detect due to method blank. Equipment blank.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7196 (Chromium, Hexavalent (Colorimetric))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG286798 and QC batch WG287289 had detections below LOQ. Sample -002 qualified non-detect at LOD with U/L flag/reason codes.
Were target analytes in the field blank less than MDL?		•		See above for equipment blank detection qualified due to method blank detection.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7470 (Mercury in Liquid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7471 (Mercury in Solid or Semisolid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW8260 (Volatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Sample -001 had 1 of 4 surrogates biased high - qualification not required since all associated sample results were non-detect. Sample -002 had 1 of 4 surrogates biased low - All sample results qualified UJ/I flag/reason code with exception of toluene detection which was qualified J/I.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		WG287174 detection for methylene chloride. Qualification not required.
Were target analytes in the field blank less than MDL?		•		Equipment blank toluene only.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch WG287377 low bias for methylene chloride. Field samples -002 and -003 results for this analyte qualified UJ/C flag/reason code as estimated.
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW8270 (Semivolatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Sample -002 had 3 of 3 acid fraction surrogates biased low below reject criteria so all acid fraction results were qualified rejected with X/I flag/reason codes. NOTE: base-neutral flags were removed from data base. Acid fraction surrogates were also outliers biased low for at least 2 of 3 surrogates in the QC batch blank and LCS.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG286713-1 detection for bis-2-ethylhexylphthalate. Qualification not required.
Were target analytes in the field blank less than MDL?		•		Equipment blank had diethylphthalate detections.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS Only
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch WG286713-2 high bias for benzaldehyde and low bias for multiple acid fraction analytes. All associated sample results already qualified as estimated due to surrogate recovery outliers but C reason code added where appropriate. QC batch WG286719 had a high bias for benzaldehyde. Qualifications not required based on this high bias.
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		ICAL and CCV outlier issues noted in case narrative were not addressed as part of this stage 2A validation review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data rejected during the verification process?	•			Sample -002 acid fraction analytes due to surrogate and LCS recovery outliers.

Review Questions

Method: SW9045 (Soil pH)

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?				
Were samples preserved properly and received in good condition?				
Were holding times met?				
Were all requested target analytes reported?				
Was a method blank prepared and analyzed with each batch?				
Were target analytes in the method blank less than MDL?				
Were target analytes in the field blank less than MDL?				
Was an LCS/LCSD pair prepared and analyzed with each batch?				
Were LCS/LCSD recoveries within project acceptance limits?				
Was the LCS/LCSD RPD within project acceptance limits?				
Was a MS/MSD pair prepared with each batch?				
Were MS/MSD recoveries within project acceptance limits?				
Was the MS/MSD RPD within project acceptance limits?				
Was the laboratory duplicate RPD within project acceptance limits?				
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?				
Were QAPP specified laboratory PQLs achieved?				
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?				
Were DoD QSM corrective actions followed if deviations were noted?				
Were any data rejected during the verification process?				

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling
SDG:	SN8027
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Katahdin Analytical Services, Westbrook, ME
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist January
Date Submitted:	05, 2021- Resubmitted February 11, 2021 clarification of review checklist narration for S2AVEM-26 SIM and SVOC.

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	A2340B	BNASIM	SW6020	SW6020 - Dissolved	SW7196	SW7470	SW7470 - Dissolved	SW8260	SW8270
NHFLA-DUP11-SEP2020	SN8027-5	Water	Field Duplicate/FD	X	X	X		X	X		X	X
NHFLA-DUP11-SEP2020	SN8027-6	Water	Field Duplicate/FD				X			X		
NHFLA-EB19-SEP2020	SN8027-7	Water	Equipment Blank/EB	X	X	X		X	X		X	X
NHFLA-EB19-SEP2020	SN8027-8	Water	Equipment Blank/EB				X			X		
NHFLA-MW2-SEP2020	SN8027-3	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW2-SEP2020	SN8027-4	Water	Field Sample/N				X			X		
NHFLA-MW5OB-SEP2020	SN8027-1	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW5OB-SEP2020	SN8027-2	Water	Field Sample/N				X			X		
NHFLA-TB22-SEP2020	SN8027-9	Water	Trip Blank/TB								X	
NHFLA-TB23-SEP2020	SN8027-10	Water	Trip Blank/TB								X	

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Katahdin Analytical Services, Westbrook, ME and were reported under sample delivery group (SDG) SN8027. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Field Duplicate RPD
- Lab Blank
- LCS Recovery
- MS Recovery
- MS RPD
- Prep Hold Time
- Surrogate
- Test Hold Time
- Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 193 results (25.06%) out of the 770 results (sample and field QC samples) reported are qualified based on review and 35 results (4.55%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Analytical Method	Data Reviewer Comment
A2340B	No additional comments; see Checklist for detail.
BNASIM	No additional comments; see Checklist for detail.
SW6020	NOTE: Discrepancies were noticed in MS/MSD recovery percentages between the database and lab report. Recoveries were manually recalculated based on lab report raw values and these results recalculated correctly so were used to qualify/not qualify field data. QC outlier tables in report may not reconcile with narrative or qualifications of field data. Clarification - samples -001, -003, -005, -007 are total metals and samples -002, -004, -006, -008 are dissolved with sample -011 being filter blank which is considered a QC sample and was not qualified.
SW7196	No additional comments; see Checklist for detail.
SW7470	No additional comments; see Checklist for detail.
SW8260	No additional comments; see Checklist for detail.
SW8270	No additional comments; see Checklist for detail.

Jim Tomalia

February 11, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method BNASIM, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS6-SEP2020 (MS)/ WG287052-5	Benzo (g,h,i)perylene	32.62	44 - 128	10 - 128	percent	J/UJ	M	
NHFLA-MS6-SEP2020 (MS)/ WG287052-5	Dibenz (a,h)anthracene	32.62	44 - 131	10 - 131	percent	J/UJ	M	
NHFLA-MS6-SEP2020 (MS)/ WG287052-5	Indeno(1,2,3-c,d)pyrene	34.22	48 - 130	10 - 130	percent	J/UJ	M	
NHFLA-MS6-SEP2020 (MS)/ WG287052-5	Benzo (k)fluoranthene	36.36	54 - 125	10 - 125	percent	J/UJ	M	
NHFLA-MS6-SEP2020 (MS)/ WG287052-5	Benzo(a)pyrene	40.11	53 - 120	10 - 120	percent	J/UJ	M	
NHFLA-MS6-SEP2020 (MS)/ WG287052-5	Benzo (b)fluoranthene	42.78	53 - 126	10 - 126	percent	J/UJ	M	
NHFLA-MS6-SEP2020 (MS)/ WG287052-5	Chrysene	45.99	57 - 120	10 - 120	percent	J/UJ	M	
NHFLA-MS6-SEP2020 (MS)/ WG287052-5	Benzo (a)anthracene	52.41	59 - 120	10 - 120	percent	J/UJ	M	
NHFLA-MSD6-SEP2020 (SD)/ WG287052-6	Benzo(a)pyrene	33.69	53 - 120	10 - 120	percent	J/UJ	M	
NHFLA-MSD6-SEP2020 (SD)/ WG287052-6	Benzo (g,h,i)perylene	35.29	44 - 128	10 - 128	percent	J/UJ	M	
NHFLA-MSD6-SEP2020 (SD)/ WG287052-6	Dibenz (a,h)anthracene	35.29	44 - 131	10 - 131	percent	J/UJ	M	
NHFLA-MSD6-SEP2020 (SD)/ WG287052-6	Benzo (b)fluoranthene	35.29	53 - 126	10 - 126	percent	J/UJ	M	
NHFLA-MSD6-SEP2020 (SD)/ WG287052-6	Benzo (k)fluoranthene	35.83	54 - 125	10 - 125	percent	J/UJ	M	
NHFLA-MSD6-SEP2020 (SD)/ WG287052-6	Indeno(1,2,3-c,d)pyrene	37.43	48 - 130	10 - 130	percent	J/UJ	M	
NHFLA-MSD6-SEP2020 (SD)/ WG287052-6	Benzo (a)anthracene	44.39	59 - 120	10 - 120	percent	J/UJ	M	
NHFLA-MSD6-SEP2020 (SD)/ WG287052-6	Chrysene	45.45	57 - 120	10 - 120	percent	J/UJ	M	
NHFLA-MSD6-SEP2020 (SD)/ WG287052-6	Anthracene	47.06	53 - 119	10 - 119	percent	J/UJ	M	
NHFLA-MSD6-SEP2020 (SD)/ WG287052-6	Fluorene	49.20	50 - 118	10 - 118	percent	J/UJ	M	
NHFLA-MSD6-SEP2020 (SD)/ WG287052-6	Fluoranthene	53.48	58 - 120	10 - 120	percent	J/UJ	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW2-SEP2020	N	Benzo(g,h,i)perylene	0.190	0.0930 UMM	0.0930 UJ		ug/l	M
NHFLA-MW2-SEP2020	N	Dibenz(a,h)anthracene	0.190	0.0930 UMM	0.0930 UJ		ug/l	M

Qualified Results associated with the MS Recovery for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW2-SEP2020	N	Indeno(1,2,3-c,d)pyrene	0.190	0.0930 UMM	0.0930 UJ		ug/l	M
NHFLA-MW2-SEP2020	N	Anthracene	0.190	0.0930 UM	0.0930 UJ		ug/l	M/D
NHFLA-MW2-SEP2020	N	Benzo(a)anthracene	0.190	0.0930 UMM	0.0930 UJ		ug/l	M
NHFLA-MW2-SEP2020	N	Benzo(a)pyrene	0.190	0.0930 UMM	0.0930 UJ		ug/l	M
NHFLA-MW2-SEP2020	N	Benzo(b)fluoranthene	0.190	0.0930 UMM	0.0930 UJ		ug/l	M
NHFLA-MW2-SEP2020	N	Benzo(k)fluoranthene	0.190	0.0930 UMM	0.0930 UJ		ug/l	M
NHFLA-MW2-SEP2020	N	Chrysene	0.190	0.0930 UMM	0.0930 UJ		ug/l	M
NHFLA-MW2-SEP2020	N	Fluoranthene	0.190	0.0930 UM	0.0930 UJ		ug/l	M
NHFLA-MW2-SEP2020	N	Fluorene	0.190	0.0930 UM	0.0930 UJ		ug/l	M/D

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method BNASIM, MS RPD

The objective of matrix spikes/matrix spike duplicates (MS/MSD) RPD analysis is to demonstrate acceptable method precision by the laboratory at the time of analysis. MS/MSD analyses are also performed to generate data that determines the long-term precision of the analytical method on various matrices. Non-homogenous samples can impact the apparent method precision. Summary forms were evaluated and compared to electronic data deliverables. Matrix spikes/matrix spike duplicates results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS6-SEP2020 (SD)/ WG287052-6	Anthracene	0.2200	< 0.19	< 0.19	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287052-6	Acenaphthylene	0.3600	< 0.19	< 0.19	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287052-6	Fluorene	0.3800	< 0.19	< 0.19	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287052-6	Acenaphthene	0.3900	< 0.19	< 0.19	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287052-6	2-Methylnaphthalene	24.00	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287052-6	Phenanthrene	24.00	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287052-6	Naphthalene	28.57	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287052-6	Pyrene	33.33	< 20	< 20	rpd	J/UJ	D	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS RPD for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW2-SEP2020	N	2-Methylnaphthalene	0.190	0.110 J	0.110 J		ug/l	D/TR
NHFLA-MW2-SEP2020	N	Acenaphthene	0.190	0.0930 U	0.0930 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Acenaphthylene	0.190	0.0930 U	0.0930 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Anthracene	0.190	0.0930 UM	0.0930 UJ		ug/l	M/D
NHFLA-MW2-SEP2020	N	Fluorene	0.190	0.0930 UM	0.0930 UJ		ug/l	M/D
NHFLA-MW2-SEP2020	N	Naphthalene	0.190	0.0930 U	0.0930 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Phenanthrene	0.190	0.0930 U	0.0930 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Pyrene	0.190	0.0930 U	0.0930 UJ		ug/l	D

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Dissolved, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB19-SEP2020 (EB)/ SN8027-8	Lead	0.1300	< 0.075	< 1	ug/l	U/None	V	
NHFLA-EB19-SEP2020 (EB)/ SN8027-8	Barium	0.9000	< 0.27	< 2	ug/l	U/None	V	
NHFLA-EB19-SEP2020 (EB)/ SN8027-8	Nickel	0.2100	< 0.15	< 2	ug/l	U/None	V	
NHFLA-EB19-SEP2020 (EB)/ SN8027-8	Chromium	0.3600	< 0.22	< 5	ug/l	U/None	V	
NHFLA-EB19-SEP2020 (EB)/ SN8027-8	Manganese	1.100	< 0.35	< 2	ug/l	U/None	V	
NHFLA-EB19-SEP2020 (EB)/ SN8027-8	Calcium	180.0	< 21	< 100	ug/l	U/None	V	
NHFLA-EB19-SEP2020 (EB)/ SN8027-8	Magnesium	23.00	< 8	< 100	ug/l	U/None	V	
NHFLA-EB19-SEP2020 (EB)/ SN8027-8	Sodium	450.0	< 19	< 1000	ug/l	U/None	V	
NHFLA-EB19-SEP2020 (EB)/ SN8027-8	Potassium	50.00	< 31	< 1000	ug/l	U/None	V	
NHFLA-EB19-SEP2020 (EB)/ SN8027-8	Aluminum	8.200	< 4.4	< 100	ug/l	U/None	V	
NHFLA-EB19-SEP2020 (EB)/ SN8027-8	Beryllium	0.03700	< 0.034	< 1	ug/l	U/None	V	
NHFLA-EB19-SEP2020 (EB)/ SN8027-8	Copper	2.260	< 0.19	< 3	ug/l	U/None	V	
NHFLA-EB19-SEP2020 (EB)/ SN8027-8	Iron	1500	< 13	< 100	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020, Dissolved, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
SN8027-11 (LB)/ SN8027-11	Lead	0.1300	< 0.075	< 1	ug/l	U/None	L	
SN8027-11 (LB)/ SN8027-11	Barium	0.5200	< 0.27	< 2	ug/l	U/None	L	
SN8027-11 (LB)/ SN8027-11	Nickel	0.2400	< 0.15	< 2	ug/l	U/None	L	
SN8027-11 (LB)/ SN8027-11	Chromium	0.2800	< 0.22	< 5	ug/l	U/None	L	
SN8027-11 (LB)/ SN8027-11	Manganese	0.4600	< 0.35	< 2	ug/l	U/None	L	
SN8027-11 (LB)/ SN8027-11	Calcium	120.0	< 21	< 100	ug/l	U/None	L	
SN8027-11 (LB)/ SN8027-11	Magnesium	18.00	< 8	< 100	ug/l	U/None	L	
SN8027-11 (LB)/ SN8027-11	Sodium	355.0	< 19	< 1000	ug/l	U/None	L	
SN8027-11 (LB)/ SN8027-11	Potassium	50.00	< 31	< 1000	ug/l	U/None	L	
SN8027-11 (LB)/ SN8027-11	Zinc	7.000	< 3.9	< 10	ug/l	U/None	L	
SN8027-11 (LB)/ SN8027-11	Aluminum	9.400	< 4.4	< 100	ug/l	U/None	L	
SN8027-11 (LB)/ SN8027-11	Copper	1.900	< 0.19	< 3	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6020, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP11-SEP2020	FD	Aluminum	100	23.0 J	40.0 U		ug/l	L
NHFLA-DUP11-SEP2020	FD	Chromium	5.00	0.430 J	4.00 U		ug/l	L
NHFLA-DUP11-SEP2020	FD	Copper	3.00	2.18 J	3.00 U		ug/l	L
NHFLA-DUP11-SEP2020	FD	Lead	1.00	0.250 J	0.500 U		ug/l	L
NHFLA-EB19-SEP2020	EB	Aluminum	100	8.20 J	40.0 U		ug/l	L
NHFLA-EB19-SEP2020	EB	Barium	2.00	0.900 J	1.00 U		ug/l	L
NHFLA-EB19-SEP2020	EB	Chromium	5.00	0.360 J	4.00 U		ug/l	L
NHFLA-EB19-SEP2020	EB	Copper	3.00	2.26 J	3.00 U		ug/l	L
NHFLA-EB19-SEP2020	EB	Lead	1.00	0.130 J	0.500 U		ug/l	L
NHFLA-EB19-SEP2020	EB	Magnesium	100	23.0 J	80.0 U		ug/l	L
NHFLA-EB19-SEP2020	EB	Manganese	2.00	1.10 J	2.00 U		ug/l	L
NHFLA-EB19-SEP2020	EB	Sodium	1000	450 J	1000 U		ug/l	L
NHFLA-MW2-SEP2020	N	Aluminum	100	9.70 J	40.0 U		ug/l	L
NHFLA-MW2-SEP2020	N	Copper	3.00	1.40 J	2.00 U		ug/l	L

Qualified Results associated with the Lab Blank for SW6020, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW2-SEP2020	N	Lead	1.00	0.210 J	0.500 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Dissolved, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS6-SEP2020 (MS)/ SN8027-004S	Calcium	32.00	87 - 118	30 - 125	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MS6-SEP2020 (MS)/ SN8027-004S	Sodium	36.92	85 - 117	30 - 125	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MS6-SEP2020 (MS)/ SN8027-004S	Magnesium	70.51	83 - 118	30 - 125	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MS6-SEP2020 (MS)/ SN8027-004S	Manganese	78.33	87 - 115	30 - 125	percent	J/UJ	M	
NHFLA-MS6-SEP2020 (MS)/ SN8027-004S	Iron	63.45	87 - 118	30 - 125	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MS7-SEP2020 (MS)/ SN8027-002S	Thallium	116.0	82 - 116	30 - 125	percent	J/None	M	
NHFLA-MS7-SEP2020 (MS)/ SN8027-002S	Sodium	14.63	85 - 117	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-MS7-SEP2020 (MS)/ SN8027-002S	Calcium	58.82	87 - 118	30 - 125	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MS7-SEP2020 (MS)/ SN8027-002S	Magnesium	75.76	83 - 118	30 - 125	percent	J/UJ	M	
NHFLA-MS7-SEP2020 (MS)/ SN8027-002S	Iron	73.33	87 - 118	30 - 125	percent	J/UJ	M	
NHFLA-MSD6-SEP2020 (SD)/ SN8027-004P	Potassium	117.0	87 - 115	30 - 125	percent	J/None	M	
NHFLA-MSD6-SEP2020 (SD)/ SN8027-004P	Sodium	61.54	85 - 117	30 - 125	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MSD6-SEP2020 (SD)/ SN8027-004P	Magnesium	79.49	83 - 118	30 - 125	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MSD6-SEP2020 (SD)/ SN8027-004P	Calcium	8.000	87 - 118	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-MSD6-SEP2020 (SD)/ SN8027-004P	Manganese	86.67	87 - 115	30 - 125	percent	J/UJ	M	
NHFLA-MSD6-SEP2020 (SD)/ SN8027-004P	Iron	61.93	87 - 118	30 - 125	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MSD7-SEP2020 (SD)/ SN8027-002P	Lead	116.0	88 - 115	30 - 125	percent	J/None	M	
NHFLA-MSD7-SEP2020 (SD)/ SN8027-002P	Thallium	118.0	82 - 116	30 - 125	percent	J/None	M	
NHFLA-MSD7-SEP2020 (SD)/ SN8027-002P	Sodium	17.89	85 - 117	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-MSD7-SEP2020 (SD)/ SN8027-002P	Calcium	58.82	87 - 118	30 - 125	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MSD7-SEP2020 (SD)/ SN8027-002P	Magnesium	78.79	83 - 118	30 - 125	percent	J/UJ	M	
NHFLA-MSD7-SEP2020 (SD)/ SN8027-002P	Iron	71.89	87 - 118	30 - 125	percent	J/UJ	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW6020, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW5OB-SEP2020	N	Lead	1.00	0.440 JN	0.440 J	+	ug/l	M/TR
NHFLA-MW5OB-SEP2020	N	Thallium	1.00	0.110 JN	0.110 J	+	ug/l	M/TR

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB19-SEP2020 (EB)/ SN8027-7	Barium	0.3200	< 0.27	< 2	ug/l	U/None	V	
NHFLA-EB19-SEP2020 (EB)/ SN8027-7	Chromium	0.2900	< 0.22	< 5	ug/l	U/None	V	
NHFLA-EB19-SEP2020 (EB)/ SN8027-7	Manganese	0.8200	< 0.35	< 2	ug/l	U/None	V	
NHFLA-EB19-SEP2020 (EB)/ SN8027-7	Magnesium	29.00	< 8	< 100	ug/l	U/None	V	
NHFLA-EB19-SEP2020 (EB)/ SN8027-7	Aluminum	5.100	< 4.4	< 100	ug/l	U/None	V	
NHFLA-EB19-SEP2020 (EB)/ SN8027-7	Potassium	57.00	< 31	< 1000	ug/l	U/None	V	
NHFLA-EB19-SEP2020 (EB)/ SN8027-7	Sodium	608.0	< 19	< 1000	ug/l	U/None	V	
NHFLA-EB19-SEP2020 (EB)/ SN8027-7	Calcium	71.00	< 21	< 100	ug/l	U/None	V	
NHFLA-EB19-SEP2020 (EB)/ SN8027-7	Copper	1.800	< 0.19	< 3	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020, Field Duplicate RPD

Field duplicate analyses are performed in order to assess sample collection/laboratory precision for each sample matrix. Summary forms were evaluated and compared to electronic data deliverables. Field duplicate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW2-SEP2020 (N)/ SN8027-5	Aluminum	241.0	< 100	< 100	ug/l	J/UJ	D3	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Field Duplicate RPD for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP11-SEP2020	FD	Aluminum	100	349	349 J		ug/l	D3
NHFLA-MW2-SEP2020	N	Aluminum	100	108	40.0 U		ug/l	L/D3

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNI25IMW1 (LB)/ PBWNI25IMW1	Antimony	0.2800	< 0.054	< 1	ug/l	U/None	L	
PBWNI25IMW1 (LB)/ PBWNI25IMW1	Copper	0.9000	< 0.18	< 3	ug/l	U/None	L	
PBWNI25IMW1 (LB)/ PBWNI25IMW1	Aluminum	11.00	< 4.4	< 100	ug/l	U/None	L	
PBWNI25IMW1 (LB)/ PBWNI25IMW1	Iron	13.00	< 13	< 100	ug/l	U/None	L	
PBWNI25IMW1 (LB)/ PBWNI25IMW1	Magnesium	18.00	< 7.8	< 100	ug/l	U/None	L	
PBWNI25IMW1 (LB)/ PBWNI25IMW1	Calcium	22.00	< 20	< 100	ug/l	U/None	L	
PBWNI28IMW2 (LB)/ PBWNI28IMW2	Beryllium	0.09500	< 0.034	< 1	ug/l	U/None	L	
PBWNI28IMW2 (LB)/ PBWNI28IMW2	Cadmium	0.1300	< 0.03	< 1	ug/l	U/None	L	
PBWNI28IMW2 (LB)/ PBWNI28IMW2	Antimony	0.1700	< 0.054	< 1	ug/l	U/None	L	
PBWNI28IMW2 (LB)/ PBWNI28IMW2	Cobalt	0.1800	< 0.061	< 1	ug/l	U/None	L	
PBWNI28IMW2 (LB)/ PBWNI28IMW2	Thallium	0.1900	< 0.061	< 1	ug/l	U/None	L	
PBWNI28IMW2 (LB)/ PBWNI28IMW2	Selenium	0.2100	< 0.19	< 5	ug/l	U/None	L	
PBWNI28IMW2 (LB)/ PBWNI28IMW2	Lead	0.2300	< 0.074	< 1	ug/l	U/None	L	
PBWNI28IMW2 (LB)/ PBWNI28IMW2	Nickel	0.3000	< 0.15	< 2	ug/l	U/None	L	
PBWNI28IMW2 (LB)/ PBWNI28IMW2	Chromium	0.4500	< 0.22	< 5	ug/l	U/None	L	
PBWNI28IMW2 (LB)/ PBWNI28IMW2	Barium	1.000	< 0.27	< 2	ug/l	U/None	L	
PBWNI28IMW2 (LB)/ PBWNI28IMW2	Vanadium	1.000	< 0.51	< 5	ug/l	U/None	L	
PBWNI28IMW2 (LB)/ PBWNI28IMW2	Sodium	110.0	< 19	< 1000	ug/l	U/None	L	
PBWNI28IMW2 (LB)/ PBWNI28IMW2	Potassium	35.00	< 31	< 1000	ug/l	U/None	L	
PBWNI28IMW2 (LB)/ PBWNI28IMW2	Magnesium	35.00	< 7.8	< 100	ug/l	U/None	L	
PBWNI28IMW2 (LB)/ PBWNI28IMW2	Calcium	36.00	< 20	< 100	ug/l	U/None	L	
PBWNI28IMW2 (LB)/ PBWNI28IMW2	Manganese	1.000	< 0.35	< 2	ug/l	U/None	L	
PBWNI28IMW2 (LB)/ PBWNI28IMW2	Copper	1.300	< 0.18	< 3	ug/l	U/None	L	
PBWNI28IMW2 (LB)/ PBWNI28IMW2	Iron	110.0	< 13	< 100	ug/l	U/None	L	
PBWNI28IMW2 (LB)/ PBWNI28IMW2	Aluminum	29.00	< 4.4	< 100	ug/l	U/None	L	

Quality Control Outliers for test method SW6020, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNI28IMW3 (LB)/ PBWNI28IMW3	Beryllium	0.07100	< 0.034	< 1	ug/l	U/None	L	
PBWNI28IMW3 (LB)/ PBWNI28IMW3	Cadmium	0.09000	< 0.03	< 1	ug/l	U/None	L	
PBWNI28IMW3 (LB)/ PBWNI28IMW3	Antimony	0.1100	< 0.054	< 1	ug/l	U/None	L	
PBWNI28IMW3 (LB)/ PBWNI28IMW3	Lead	0.1200	< 0.074	< 1	ug/l	U/None	L	
PBWNI28IMW3 (LB)/ PBWNI28IMW3	Thallium	0.1300	< 0.061	< 1	ug/l	U/None	L	
PBWNI28IMW3 (LB)/ PBWNI28IMW3	Cobalt	0.1500	< 0.061	< 1	ug/l	U/None	L	
PBWNI28IMW3 (LB)/ PBWNI28IMW3	Chromium	0.3000	< 0.22	< 5	ug/l	U/None	L	
PBWNI28IMW3 (LB)/ PBWNI28IMW3	Manganese	0.4800	< 0.35	< 2	ug/l	U/None	L	
PBWNI28IMW3 (LB)/ PBWNI28IMW3	Barium	0.7700	< 0.27	< 2	ug/l	U/None	L	
PBWNI28IMW3 (LB)/ PBWNI28IMW3	Vanadium	1.100	< 0.51	< 5	ug/l	U/None	L	
PBWNI28IMW3 (LB)/ PBWNI28IMW3	Aluminum	27.00	< 4.4	< 100	ug/l	U/None	L	
PBWNI28IMW3 (LB)/ PBWNI28IMW3	Magnesium	28.00	< 7.8	< 100	ug/l	U/None	L	
PBWNI28IMW3 (LB)/ PBWNI28IMW3	Sodium	96.00	< 19	< 1000	ug/l	U/None	L	
PBWNI28IMW3 (LB)/ PBWNI28IMW3	Copper	1.300	< 0.18	< 3	ug/l	U/None	L	
PBWNJ05IMW3 (LB)/ PBWNJ05IMW3	Iron	15.00	< 13	< 100	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP11-SEP2020	FD	Copper	3.00	2.42 J	3.00 U		ug/l	L
NHFLA-DUP11-SEP2020	FD	Vanadium	5.00	1.80 J	4.00 U		ug/l	L
NHFLA-DUP11-SEP2020	FD	Antimony	1.00	0.330 J	0.500 U		ug/l	L
NHFLA-DUP11-SEP2020	FD	Beryllium	1.00	0.140 J	0.200 U		ug/l	L
NHFLA-DUP11-SEP2020	FD	Cadmium	1.00	0.150 J	0.200 U		ug/l	L
NHFLA-DUP11-SEP2020	FD	Chromium	5.00	0.840 J	4.00 U		ug/l	L
NHFLA-DUP11-SEP2020	FD	Cobalt	1.00	0.635 J	1.00 U		ug/l	L
NHFLA-DUP11-SEP2020	FD	Thallium	1.00	0.210 J	0.400 U		ug/l	L
NHFLA-EB19-SEP2020	EB	Aluminum	100	5.10 J	40.0 U		ug/l	L
NHFLA-EB19-SEP2020	EB	Copper	3.00	1.80 J	2.00 U		ug/l	L

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB19-SEP2020	EB	Magnesium	100	29.0 J	80.0 U		ug/l	L
NHFLA-EB19-SEP2020	EB	Barium	2.00	0.320 J	1.00 U		ug/l	L
NHFLA-EB19-SEP2020	EB	Chromium	5.00	0.290 J	4.00 U		ug/l	L
NHFLA-EB19-SEP2020	EB	Manganese	2.00	0.820 J	1.00 U		ug/l	L
NHFLA-MW2-SEP2020	N	Aluminum	100	108	40.0 U		ug/l	L/D3
NHFLA-MW2-SEP2020	N	Copper	3.00	1.50 J	2.00 U		ug/l	L
NHFLA-MW2-SEP2020	N	Selenium	5.00	0.250 J	3.00 U		ug/l	L
NHFLA-MW2-SEP2020	N	Vanadium	5.00	0.900 J	4.00 U		ug/l	L
NHFLA-MW2-SEP2020	N	Antimony	1.00	0.180 J	0.500 U		ug/l	L
NHFLA-MW2-SEP2020	N	Beryllium	1.00	0.0640 J	0.200 U		ug/l	L
NHFLA-MW2-SEP2020	N	Cadmium	1.00	0.140 J	0.200 U		ug/l	L
NHFLA-MW2-SEP2020	N	Chromium	5.00	0.360 J	4.00 U		ug/l	L
NHFLA-MW2-SEP2020	N	Cobalt	1.00	0.440 J	1.00 U		ug/l	L
NHFLA-MW2-SEP2020	N	Lead	1.00	0.170 J	0.500 U		ug/l	L
NHFLA-MW2-SEP2020	N	Thallium	1.00	0.110 J	0.400 U		ug/l	L
NHFLA-MW5OB-SEP2020	N	Copper	3.00	1.10 J	2.00 U		ug/l	L
NHFLA-MW5OB-SEP2020	N	Antimony	1.00	0.220 J	0.500 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS6-SEP2020 (MS)/ SN8027-003S	Calcium	-40.00	87 - 118	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-MS6-SEP2020 (MS)/ SN8027-003S	Sodium	53.33	85 - 117	30 - 125	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MS6-SEP2020 (MS)/ SN8027-003S	Iron	83.00	87 - 118	30 - 125	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MS7-SEP2020 (MS)/ SN8027-001S	Sodium	-40.00	85 - 117	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-MS7-SEP2020 (MS)/ SN8027-001S	Calcium	0.000	87 - 118	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-MS7-SEP2020 (MS)/ SN8027-001S	Selenium	62.00	80 - 120	30 - 125	percent	J/UJ	M	
NHFLA-MSD6-SEP2020 (SD)/ SN8027-003P	Calcium	40.00	87 - 118	30 - 125	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MSD6-SEP2020 (SD)/ SN8027-003P	Sodium	80.00	85 - 117	30 - 125	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MSD7-SEP2020 (SD)/ SN8027-001P	Sodium	13.33	85 - 117	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-MSD7-SEP2020 (SD)/ SN8027-001P	Calcium	520.0	87 - 118	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-MSD7-SEP2020 (SD)/ SN8027-001P	Selenium	65.20	80 - 120	30 - 125	percent	J/UJ	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW5OB-SEP2020	N	Selenium	5.00	3.00 UN	3.00 UJ		ug/l	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS6-SEP2020 (MS)/ WG286994-5	Chromium, Hexavalent	0.000	90 - 111	30 - 125	percent	J/X	M	
NHFLA-MS7-SEP2020 (MS)/ WG286994-3	Chromium, Hexavalent	79.54	90 - 111	30 - 125	percent	J/UJ	M	
NHFLA-MSD6-SEP2020 (SD)/ WG286994-6	Chromium, Hexavalent	0.000	90 - 111	30 - 125	percent	J/X	M	
NHFLA-MSD7-SEP2020 (SD)/ WG286994-4	Chromium, Hexavalent	89.54	90 - 111	30 - 125	percent	J/UJ	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW2-SEP2020	N	Chromium, Hexavalent	0.0250	0.0125 U	0.0125 X		mg/l	M
NHFLA-MW5OB-SEP2020	N	Chromium, Hexavalent	0.0250	0.00230 J	0.00230 J	-	mg/l	M/TR

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7470, Dissolved, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB19-SEP2020 (EB)/ SN8027-8	Mercury	0.04900	< 0.013	< 0.2	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7470, Dissolved, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
SN8027-11 (LB)/ SN8027-11	Mercury	0.01600	< 0.013	< 0.2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW7470, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP11-SEP2020	FD	Mercury	0.200	0.0170 J	0.100 U		ug/l	L
NHFLA-EB19-SEP2020	EB	Mercury	0.200	0.0490 J	0.100 U		ug/l	L
NHFLA-MW5OB-SEP2020	N	Mercury	0.200	0.192 J	0.200 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7470, Dissolved, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MSD7-SEP2020 (SD)/ SN8027-002P	Mercury	122.2	82 - 119	30 - 125	percent	J/None	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7470, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB19-SEP2020 (EB)/ SN8027-7	Mercury	0.01800	< 0.013	< 0.2	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7470, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNI30HGW3 (LB)/ PBWNI30HGW3	Mercury	0.05400	< 0.013	< 0.2	ug/l	U/None	L	
PBWNJ08HGW2 (LB)/ PBWNJ08HGW2	Mercury	0.07000	< 0.013	< 0.2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW7470

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP11-SEP2020	FD	Mercury	0.200	0.0230 J	0.100 U		ug/l	L
NHFLA-EB19-SEP2020	EB	Mercury	0.200	0.0180 J	0.100 U		ug/l	L
NHFLA-MW5OB-SEP2020	N	Mercury	0.200	0.0170 JA	0.100 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB19-SEP2020 (EB)/ SN8027-7	Toluene	1.200	< 0.27	< 1	ug/l	U/None	V	
NHFLA-EB19-SEP2020 (EB)/ SN8027-7	Methylene chloride	1.200	< 1.1	< 5	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS6-SEP2020 (MS)/ WG287676-6	Chloroethane	177.2	60 - 138	10 - 138	percent	J/None	M	
NHFLA-MS7-SEP2020 (MS)/ WG287676-8	Chloroethane	222.0	60 - 138	10 - 138	percent	J/None	M	
NHFLA-MSD6-SEP2020 (SD)/ WG287676-7	Chloroethane	171.0	60 - 138	10 - 138	percent	J/None	M	
NHFLA-MSD7-SEP2020 (SD)/ WG287676-9	m,p-Xylene	123.5	80 - 121	10 - 121	percent	J/None	M	
NHFLA-MSD7-SEP2020 (SD)/ WG287676-9	Chloroethane	202.0	60 - 138	10 - 138	percent	J/None	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW5OB-SEP2020	N	m,p-Xylene	2.00	7.50 M	7.50 J	+	ug/l	M/I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, MS RPD

The objective of matrix spikes/matrix spike duplicates (MS/MSD) RPD analysis is to demonstrate acceptable method precision by the laboratory at the time of analysis. MS/MSD analyses are also performed to generate data that determines the long-term precision of the analytical method on various matrices. Non-homogenous samples can impact the apparent method precision. Summary forms were evaluated and compared to electronic data deliverables. Matrix spikes/matrix spike duplicates results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS6-SEP2020 (SD)/ WG287676-7	Bromomethane	20.51	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS7-SEP2020 (SD)/ WG287676-9	Bromomethane	21.57	< 20	< 20	rpd	J/UJ	D	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS RPD for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW2-SEP2020	N	Bromomethane	2.00	1.00 U	1.00 UJ		ug/l	D
NHFLA-MW5OB-SEP2020	N	Bromomethane	2.00	1.00 U	1.00 UJ		ug/l	D

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-DUP11-SEP2020 (FD)/ SN8027-5	1,2-Dichloroethane-d4	122.0	81 - 118	10 - 118	percent	J/None	I	
NHFLA-EB19-SEP2020 (EB)/ SN8027-7	1,2-Dichloroethane-d4	121.0	81 - 118	10 - 118	percent	J/None	I	
NHFLA-MW2-SEP2020 (N)/ SN8027-3	1,2-Dichloroethane-d4	128.0	81 - 118	10 - 118	percent	J/None	I	
NHFLA-MW5OB-SEP2020 (N)/ SN8027-1	1,2-Dichloroethane-d4	123.0	81 - 118	10 - 118	percent	J/None	I	
NHFLA-TB23-SEP2020 (TB)/ SN8027-10	1,2-Dichloroethane-d4	120.0	81 - 118	10 - 118	percent	J/None	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP11-SEP2020	FD	Acetone	5.00	2.80 J	2.80 J	+	ug/l	I/TR
NHFLA-DUP11-SEP2020	FD	Carbon disulfide	1.00	0.270 J	0.270 J	+	ug/l	I/TR
NHFLA-DUP11-SEP2020	FD	Cyclohexane	1.00	1.70	1.70 J	+	ug/l	I
NHFLA-DUP11-SEP2020	FD	Methylcyclohexane	1.00	5.10	5.10 J	+	ug/l	I
NHFLA-EB19-SEP2020	EB	Methylene chloride	5.00	1.20 J	1.20 J	+	ug/l	I/TR
NHFLA-EB19-SEP2020	EB	Toluene	1.00	1.20	1.20 J	+	ug/l	I
NHFLA-MW2-SEP2020	N	2-Butanone (MEK)	5.00	1.50 J	1.50 J	+	ug/l	I/TR
NHFLA-MW2-SEP2020	N	Acetone	5.00	3.60 J	3.60 J	+	ug/l	I/TR
NHFLA-MW2-SEP2020	N	Carbon disulfide	1.00	0.260 J	0.260 J	+	ug/l	I/TR
NHFLA-MW2-SEP2020	N	Cyclohexane	1.00	1.80	1.80 J	+	ug/l	I
NHFLA-MW2-SEP2020	N	Methylcyclohexane	1.00	5.20	5.20 J	+	ug/l	I
NHFLA-MW5OB-SEP2020	N	Benzene	1.00	5.10	5.10 J	+	ug/l	I
NHFLA-MW5OB-SEP2020	N	Carbon disulfide	1.00	0.470 J	0.470 J	+	ug/l	I/TR
NHFLA-MW5OB-SEP2020	N	Cyclohexane	1.00	20.0	20.0 J	+	ug/l	I
NHFLA-MW5OB-SEP2020	N	Ethylbenzene	1.00	3.10	3.10 J	+	ug/l	I
NHFLA-MW5OB-SEP2020	N	Isopropylbenzene (Cumene)	1.00	0.580 J	0.580 J	+	ug/l	I/TR
NHFLA-MW5OB-SEP2020	N	m,p-Xylene	2.00	7.50 M	7.50 J	+	ug/l	M/I
NHFLA-MW5OB-SEP2020	N	Methylcyclohexane	1.00	18.0	18.0 J	+	ug/l	I
NHFLA-MW5OB-SEP2020	N	o-Xylene	1.00	5.10	5.10 J	+	ug/l	I
NHFLA-MW5OB-SEP2020	N	Toluene	1.00	12.0	12.0 J	+	ug/l	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG287051-2 (BS)/ WG287051-2	4-Nitrophenol	0.000	10 - 114	10 - 114	percent	J/X	C	
WG287051-2 (BS)/ WG287051-2	2,4-Dinitrophenol	0.000	12 - 143	10 - 143	percent	J/X	C	
WG287051-2 (BS)/ WG287051-2	Pentachlorophenol	0.000	35 - 138	10 - 138	percent	J/X	C	
WG287051-2 (BS)/ WG287051-2	4,6-Dinitro-2-methylphenol	0.000	44 - 137	10 - 137	percent	J/X	C	
WG287051-2 (BS)/ WG287051-2	2,4,6-Trichlorophenol	0.000	50 - 125	10 - 125	percent	J/X	C	
WG287051-2 (BS)/ WG287051-2	2,3,4,6-Tetrachlorophenol	0.000	50 - 128	10 - 128	percent	J/X	C	
WG287051-2 (BS)/ WG287051-2	2-Nitrophenol	10.50	47 - 123	10 - 123	percent	J/UJ	C	
WG287051-2 (BS)/ WG287051-2	2-Chlorophenol	10.60	38 - 117	10 - 117	percent	J/UJ	C	
WG287051-2 (BS)/ WG287051-2	Benzaldehyde	1552	10 - 189	10 - 189	percent	J/None	C	
WG287051-2 (BS)/ WG287051-2	2,4,5-Trichlorophenol	3.640	53 - 123	10 - 123	percent	J/X	C	
WG287051-2 (BS)/ WG287051-2	2,4-Dichlorophenol	9.460	47 - 121	10 - 121	percent	J/X	C	
WG287620-2 (BS)/ WG287620-2	Benzaldehyde	322.0	10 - 189	10 - 189	percent	J/None	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP11-SEP2020	FD	2,3,4,6-Tetrachlorophenol	9.30	7.00 UL	7.00 X		ug/l	C
NHFLA-DUP11-SEP2020	FD	2,4,5-Trichlorophenol	23.0	18.0 UL	18.0 X		ug/l	C
NHFLA-DUP11-SEP2020	FD	2,4,6-Trichlorophenol	9.30	7.00 UL	7.00 X		ug/l	C
NHFLA-DUP11-SEP2020	FD	2,4-Dichlorophenol	9.30	7.00 UL	7.00 X		ug/l	C
NHFLA-DUP11-SEP2020	FD	2,4-Dinitrophenol	23.0	18.0 UL	18.0 X		ug/l	C
NHFLA-DUP11-SEP2020	FD	2-Chlorophenol	9.30	7.00 UL	7.00 UJ		ug/l	C
NHFLA-DUP11-SEP2020	FD	2-Nitrophenol	9.30	7.00 UL	7.00 UJ		ug/l	C
NHFLA-DUP11-SEP2020	FD	4,6-Dinitro-2-methylphenol	23.0	18.0 UL	18.0 X		ug/l	C
NHFLA-DUP11-SEP2020	FD	4-Nitrophenol	23.0	18.0 UL	18.0 X		ug/l	C
NHFLA-DUP11-SEP2020	FD	Pentachlorophenol	23.0	18.0 UL	18.0 X		ug/l	C
NHFLA-EB19-SEP2020	EB	2,3,4,6-Tetrachlorophenol	9.60	7.20 UL	7.20 X		ug/l	C
NHFLA-EB19-SEP2020	EB	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-EB19-SEP2020	EB	2,4,6-Trichlorophenol	9.60	7.20 UL	7.20 X		ug/l	C
NHFLA-EB19-SEP2020	EB	2,4-Dichlorophenol	9.60	7.20 UL	7.20 X		ug/l	C
NHFLA-EB19-SEP2020	EB	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB19-SEP2020	EB	2-Chlorophenol	9.60	7.20 UL	7.20 UJ		ug/l	C
NHFLA-EB19-SEP2020	EB	2-Nitrophenol	9.60	7.20 UL	7.20 UJ		ug/l	C
NHFLA-EB19-SEP2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-EB19-SEP2020	EB	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-EB19-SEP2020	EB	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW2-SEP2020	N	2,3,4,6-Tetrachlorophenol	9.30	7.00 UL	7.00 X		ug/l	C/D
NHFLA-MW2-SEP2020	N	2,4,5-Trichlorophenol	23.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW2-SEP2020	N	2,4,6-Trichlorophenol	9.30	7.00 UL	7.00 X		ug/l	C/D
NHFLA-MW2-SEP2020	N	2,4-Dichlorophenol	9.30	7.00 UL	7.00 X		ug/l	C/D
NHFLA-MW2-SEP2020	N	2,4-Dinitrophenol	23.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW2-SEP2020	N	2-Chlorophenol	9.30	7.00 UL	7.00 UJ		ug/l	C/D
NHFLA-MW2-SEP2020	N	2-Nitrophenol	9.30	7.00 UL	7.00 UJ		ug/l	C/D
NHFLA-MW2-SEP2020	N	4,6-Dinitro-2-methylphenol	23.0	18.0 UL	18.0 X		ug/l	C/D
NHFLA-MW2-SEP2020	N	4-Nitrophenol	23.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW2-SEP2020	N	Pentachlorophenol	23.0	18.0 UL	18.0 X		ug/l	C/D
NHFLA-MW5OB-SEP2020	N	2,3,4,6-Tetrachlorophenol	9.30	7.00 ULM	7.00 X		ug/l	C/M/D
NHFLA-MW5OB-SEP2020	N	2,4,5-Trichlorophenol	23.0	18.0 ULM	18.0 X		ug/l	C/M/D
NHFLA-MW5OB-SEP2020	N	2,4,6-Trichlorophenol	9.30	7.00 ULM	7.00 X		ug/l	C/M/D
NHFLA-MW5OB-SEP2020	N	2,4-Dichlorophenol	9.30	7.00 ULM	7.00 X		ug/l	C/M/D
NHFLA-MW5OB-SEP2020	N	2,4-Dinitrophenol	23.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW5OB-SEP2020	N	2-Chlorophenol	9.30	7.00 ULM	7.00 UJ		ug/l	C/M/D
NHFLA-MW5OB-SEP2020	N	2-Nitrophenol	9.30	7.00 ULM	7.00 UJ		ug/l	C/M/D
NHFLA-MW5OB-SEP2020	N	4,6-Dinitro-2-methylphenol	23.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW5OB-SEP2020	N	4-Nitrophenol	23.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW5OB-SEP2020	N	Pentachlorophenol	23.0	18.0 UL	18.0 X		ug/l	C/D

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS6-SEP2020 (MS)/ WG287051-5	Benzaldehyde	299.8	10 - 189	10 - 189	percent	J/None	M	
NHFLA-MS6-SEP2020 (MS)/ WG287051-5	Caprolactam	8.351	10 - 86	10 - 86	percent	J/X	M	
NHFLA-MS7-SEP2020 (MS)/ WG287051-3	Hexachlorocyclopentadiene	16.39	23 - 70	10 - 70	percent	J/UJ	M	
NHFLA-MS7-SEP2020 (MS)/ WG287051-3	Cresols, m- & p-	23.11	29 - 110	10 - 110	percent	J/UJ	M	
NHFLA-MS7-SEP2020 (MS)/ WG287051-3	4-Chloroaniline	23.11	33 - 117	10 - 117	percent	J/UJ	M	
NHFLA-MS7-SEP2020 (MS)/ WG287051-3	2-Methylphenol (o-Cresol)	24.16	30 - 117	10 - 117	percent	J/UJ	M	
NHFLA-MS7-SEP2020 (MS)/ WG287051-3	Benzaldehyde	252.1	10 - 189	10 - 189	percent	J/None	M	
NHFLA-MS7-SEP2020 (MS)/ WG287051-3	2,4-Dimethylphenol	28.36	31 - 124	10 - 124	percent	J/UJ	M	
NHFLA-MS7-SEP2020 (MS)/ WG287051-3	2-Chlorophenol	29.41	38 - 117	10 - 117	percent	J/UJ	M	
NHFLA-MS7-SEP2020 (MS)/ WG287051-3	3-Nitroaniline	29.41	41 - 128	10 - 128	percent	J/UJ	M	
NHFLA-MS7-SEP2020 (MS)/ WG287051-3	2,2'-Oxybis(1-chloropropane)	31.51	37 - 130	10 - 130	percent	J/UJ	M	
NHFLA-MS7-SEP2020 (MS)/ WG287051-3	2,4-Dichlorophenol	31.51	47 - 121	10 - 121	percent	J/UJ	M	
NHFLA-MS7-SEP2020 (MS)/ WG287051-3	4-Chloro-3-methylphenol	33.61	52 - 119	10 - 119	percent	J/UJ	M	
NHFLA-MS7-SEP2020 (MS)/ WG287051-3	2-Nitrophenol	38.87	47 - 123	10 - 123	percent	J/UJ	M	
NHFLA-MS7-SEP2020 (MS)/ WG287051-3	2,4,6-Trichlorophenol	38.87	50 - 125	10 - 125	percent	J/UJ	M	
NHFLA-MS7-SEP2020 (MS)/ WG287051-3	N-Nitrosodi-n-propylamine	42.02	49 - 119	10 - 119	percent	J/UJ	M	
NHFLA-MS7-SEP2020 (MS)/ WG287051-3	2,3,4,6-Tetrachlorophenol	43.07	50 - 128	10 - 128	percent	J/UJ	M	
NHFLA-MS7-SEP2020 (MS)/ WG287051-3	2,4,5-Trichlorophenol	43.07	53 - 123	10 - 123	percent	J/UJ	M	
NHFLA-MS7-SEP2020 (MS)/ WG287051-3	4-Nitroaniline	44.12	52 - 106	10 - 106	percent	J/UJ	M	
NHFLA-MS7-SEP2020 (MS)/ WG287051-3	N-Nitrosodiphenylamine	50.42	51 - 123	10 - 123	percent	J/UJ	M	
NHFLA-MS7-SEP2020 (MS)/ WG287051-3	Diethyl phthalate	54.62	56 - 125	10 - 125	percent	J/UJ	M	
NHFLA-MS7-SEP2020 (MS)/ WG287051-3	Caprolactam	8.824	10 - 86	10 - 86	percent	J/X	M	
NHFLA-MSD6-SEP2020 (SD)/ WG287051-6	Pentachlorophenol	139.2	35 - 138	10 - 138	percent	J/None	M	
NHFLA-MSD6-SEP2020 (SD)/ WG287051-6	Benzaldehyde	428.3	10 - 189	10 - 189	percent	J/None	M	

Quality Control Outliers for test method SW8270, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MSD7-SEP2020 (SD)/ WG287051-4	Benzaldehyde	299.8	10 - 189	10 - 189	percent	J/None	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW2-SEP2020	N	Caprolactam	9.30	7.00 UM	7.00 X		ug/l	M
NHFLA-MW5OB-SEP2020	N	2,2'-Oxybis(1-chloropropane)	9.30	7.00 UM	7.00 UJ		ug/l	M
NHFLA-MW5OB-SEP2020	N	2,3,4,6-Tetrachlorophenol	9.30	7.00 ULM	7.00 X		ug/l	C/M/D
NHFLA-MW5OB-SEP2020	N	2,4,5-Trichlorophenol	23.0	18.0 ULM	18.0 X		ug/l	C/M/D
NHFLA-MW5OB-SEP2020	N	2,4,6-Trichlorophenol	9.30	7.00 ULM	7.00 X		ug/l	C/M/D
NHFLA-MW5OB-SEP2020	N	2,4-Dichlorophenol	9.30	7.00 ULM	7.00 X		ug/l	C/M/D
NHFLA-MW5OB-SEP2020	N	2,4-Dimethylphenol	9.30	7.00 UM	7.00 UJ		ug/l	M/D
NHFLA-MW5OB-SEP2020	N	2-Chlorophenol	9.30	7.00 ULM	7.00 UJ		ug/l	C/M/D
NHFLA-MW5OB-SEP2020	N	2-Methylphenol (o-Cresol)	9.30	7.00 UM	7.00 UJ		ug/l	M/D
NHFLA-MW5OB-SEP2020	N	2-Nitrophenol	9.30	7.00 ULM	7.00 UJ		ug/l	C/M/D
NHFLA-MW5OB-SEP2020	N	3-Nitroaniline	23.0	18.0 UM	18.0 UJ		ug/l	M
NHFLA-MW5OB-SEP2020	N	4-Chloro-3-methylphenol	9.30	7.00 UM	7.00 UJ		ug/l	M/D
NHFLA-MW5OB-SEP2020	N	4-Chloroaniline	9.30	7.00 UM	7.00 UJ		ug/l	M/D
NHFLA-MW5OB-SEP2020	N	4-Nitroaniline	23.0	18.0 UM	18.0 UJ		ug/l	M
NHFLA-MW5OB-SEP2020	N	Cresols, m- & p-	9.30	7.00 UM	7.00 UJ		ug/l	M/D
NHFLA-MW5OB-SEP2020	N	Diethyl phthalate	9.30	7.00 UM	7.00 UJ		ug/l	M
NHFLA-MW5OB-SEP2020	N	Hexachlorocyclopentadiene	9.30	7.00 UM	7.00 UJ		ug/l	M
NHFLA-MW5OB-SEP2020	N	N-Nitrosodi-n-propylamine	9.30	7.00 UM	7.00 UJ		ug/l	M
NHFLA-MW5OB-SEP2020	N	N-Nitrosodiphenylamine	9.30	7.00 UM	7.00 UJ		ug/l	M
NHFLA-MW5OB-SEP2020	N	Caprolactam	9.30	7.00 UM	7.00 X		ug/l	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, MS RPD

The objective of matrix spikes/matrix spike duplicates (MS/MSD) RPD analysis is to demonstrate acceptable method precision by the laboratory at the time of analysis. MS/MSD analyses are also performed to generate data that determines the long-term precision of the analytical method on various matrices. Non-homogenous samples can impact the apparent method precision. Summary forms were evaluated and compared to electronic data deliverables. Matrix spikes/matrix spike duplicates results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	Carbazole	10.00	< 9.3	< 9.3	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	2-Chloronaphthalene	10.00	< 9.3	< 9.3	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	Diethyl phthalate	10.00	< 9.3	< 9.3	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	2,6-Dinitrotoluene	10.00	< 9.3	< 9.3	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	Hexachlorobenzene	10.00	< 9.3	< 9.3	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	Benzyl butyl phthalate	11.00	< 9.3	< 9.3	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	1,2,4,5-Tetrachlorobenzene	11.00	< 9.3	< 9.3	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	4-Chloroaniline	11.00	< 9.3	< 9.3	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	Dibenzofuran	11.00	< 9.3	< 9.3	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	Dimethyl phthalate	11.00	< 9.3	< 9.3	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	Di-n-butyl phthalate	11.00	< 9.3	< 9.3	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	N-Nitrosodi-n-propylamine	11.00	< 9.3	< 9.3	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	4-Bromophenyl phenyl ether	12.00	< 9.3	< 9.3	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	4-Chlorophenyl phenyl ether	12.00	< 9.3	< 9.3	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	Isophorone	12.00	< 9.3	< 9.3	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	Bis(2-chloroethoxy) methane	13.00	< 9.3	< 9.3	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	Biphenyl (Diphenyl)	13.00	< 9.3	< 9.3	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	13.00	< 9.3	< 9.3	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	Bis(2-ethylhexyl) phthalate	13.00	< 9.3	< 9.3	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	di-n-Octyl phthalate	13.00	< 9.3	< 9.3	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	Nitrobenzene	13.00	< 9.3	< 9.3	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	Hexachlorobutadiene	14.00	< 9.3	< 9.3	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	Hexachloroethane	14.00	< 9.3	< 9.3	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	2,2'-Oxybis(1-chloropropane)	14.00	< 9.3	< 9.3	ug/l	J/UJ	D	

Quality Control Outliers for test method SW8270, MS RPD

The objective of matrix spikes/matrix spike duplicates (MS/MSD) RPD analysis is to demonstrate acceptable method precision by the laboratory at the time of analysis. MS/MSD analyses are also performed to generate data that determines the long-term precision of the analytical method on various matrices. Non-homogenous samples can impact the apparent method precision. Summary forms were evaluated and compared to electronic data deliverables. Matrix spikes/matrix spike duplicates results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	Acetophenone	15.00	< 9.3	< 9.3	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	Atrazine	15.00	< 9.3	< 9.3	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	Cresols, m- & p-	15.00	< 9.3	< 9.3	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	2-Methylphenol (o-Cresol)	18.00	< 9.3	< 9.3	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	3,3'-Dichlorobenzidine	24.30	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	2,3,4,6-Tetrachlorophenol	29.33	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	2,4,6-Trichlorophenol	30.00	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	4,6-Dinitro-2-methylphenol	30.00	< 23	< 23	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	4-Chloro-3-methylphenol	30.66	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	Pentachlorophenol	32.00	< 23	< 23	ug/l	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	2,4-Dichlorophenol	34.29	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	2-Chlorophenol	34.59	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	Benzaldehyde	35.29	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	2-Nitrophenol	36.24	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS6-SEP2020 (SD)/ WG287051-6	2,4-Dimethylphenol	43.61	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS7-SEP2020 (SD)/ WG287051-4	Bis(2-ethylhexyl) phthalate	10.00	< 9.5	< 9.5	ug/l	J/UJ	D	
NHFLA-MS7-SEP2020 (SD)/ WG287051-4	di-n-Octyl phthalate	10.00	< 9.5	< 9.5	ug/l	J/UJ	D	
NHFLA-MS7-SEP2020 (SD)/ WG287051-4	Phenol	10.00	< 9.5	< 9.5	ug/l	J/UJ	D	
NHFLA-MS7-SEP2020 (SD)/ WG287051-4	4-Chloroaniline	13.00	< 9.5	< 9.5	ug/l	J/UJ	D	
NHFLA-MS7-SEP2020 (SD)/ WG287051-4	Dimethyl phthalate	13.00	< 9.5	< 9.5	ug/l	J/UJ	D	
NHFLA-MS7-SEP2020 (SD)/ WG287051-4	Cresols, m- & p-	21.00	< 9.5	< 9.5	ug/l	J/UJ	D	
NHFLA-MS7-SEP2020 (SD)/ WG287051-4	2-Methylphenol (o-Cresol)	22.00	< 9.5	< 9.5	ug/l	J/UJ	D	
NHFLA-MS7-SEP2020 (SD)/ WG287051-4	3,3'-Dichlorobenzidine	23.00	< 9.5	< 9.5	ug/l	J/UJ	D	
NHFLA-MS7-SEP2020 (SD)/ WG287051-4	2,3,4,6-Tetrachlorophenol	24.00	< 9.5	< 9.5	ug/l	J/UJ	D	
NHFLA-MS7-SEP2020 (SD)/ WG287051-4	2-Chlorophenol	27.00	< 9.5	< 9.5	ug/l	J/UJ	D	

Quality Control Outliers for test method SW8270, MS RPD

The objective of matrix spikes/matrix spike duplicates (MS/MSD) RPD analysis is to demonstrate acceptable method precision by the laboratory at the time of analysis. MS/MSD analyses are also performed to generate data that determines the long-term precision of the analytical method on various matrices. Non-homogenous samples can impact the apparent method precision. Summary forms were evaluated and compared to electronic data deliverables. Matrix spikes/matrix spike duplicates results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS7-SEP2020 (SD)/ WG287051-4	2,4-Dichlorophenol	28.00	< 9.5	< 9.5	ug/l	J/UJ	D	
NHFLA-MS7-SEP2020 (SD)/ WG287051-4	2,4-Dimethylphenol	28.00	< 9.5	< 9.5	ug/l	J/UJ	D	
NHFLA-MS7-SEP2020 (SD)/ WG287051-4	2-Nitrophenol	28.00	< 9.5	< 9.5	ug/l	J/UJ	D	
NHFLA-MS7-SEP2020 (SD)/ WG287051-4	4-Chloro-3-methylphenol	29.00	< 9.5	< 9.5	ug/l	J/UJ	D	
NHFLA-MS7-SEP2020 (SD)/ WG287051-4	2,4,6-Trichlorophenol	30.00	< 9.5	< 9.5	ug/l	J/UJ	D	
NHFLA-MS7-SEP2020 (SD)/ WG287051-4	2,4,5-Trichlorophenol	31.00	< 24	< 24	ug/l	J/UJ	D	
NHFLA-MS7-SEP2020 (SD)/ WG287051-4	Pentachlorophenol	33.00	< 24	< 24	ug/l	J/UJ	D	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS RPD for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW2-SEP2020	N	2,3,4,6-Tetrachlorophenol	9.30	7.00 UL	7.00 X		ug/l	C/D
NHFLA-MW2-SEP2020	N	2,4-Dichlorophenol	9.30	7.00 UL	7.00 X		ug/l	C/D
NHFLA-MW2-SEP2020	N	2,4-Dimethylphenol	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	2-Chlorophenol	9.30	7.00 UL	7.00 UJ		ug/l	C/D
NHFLA-MW2-SEP2020	N	2-Nitrophenol	9.30	7.00 UL	7.00 UJ		ug/l	C/D
NHFLA-MW2-SEP2020	N	3,3'-Dichlorobenzidine	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	4-Chloro-3-methylphenol	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Bis(2-ethylhexyl) phthalate	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	di-n-Octyl phthalate	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	1,2,4,5-Tetrachlorobenzene	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	2,2'-Oxybis(1-chloropropane)	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	2,4,6-Trichlorophenol	9.30	7.00 UL	7.00 X		ug/l	C/D
NHFLA-MW2-SEP2020	N	2,6-Dinitrotoluene	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	2-Chloronaphthalene	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	2-Methylphenol (o-Cresol)	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	4,6-Dinitro-2-methylphenol	23.0	18.0 UL	18.0 X		ug/l	C/D
NHFLA-MW2-SEP2020	N	4-Bromophenyl phenyl ether	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	4-Chloroaniline	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	4-Chlorophenyl phenyl ether	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Acetophenone	9.30	7.00 U	7.00 UJ		ug/l	D

Qualified Results associated with the MS RPD for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW2-SEP2020	N	Atrazine	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Benzaldehyde	9.30	7.00 ULMM	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Benzyl butyl phthalate	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Biphenyl (Diphenyl)	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Bis(2-chloroethoxy) methane	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Carbazole	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Cresols, m- & p-	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Dibenzofuran	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Diethyl phthalate	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Dimethyl phthalate	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Di-n-butyl phthalate	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Hexachlorobenzene	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Hexachlorobutadiene	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Hexachloroethane	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Isophorone	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Nitrobenzene	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	N-Nitrosodi-n-propylamine	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Pentachlorophenol	23.0	18.0 UL	18.0 X		ug/l	C/D
NHFLA-MW5OB-SEP2020	N	2,3,4,6-Tetrachlorophenol	9.30	7.00 ULM	7.00 X		ug/l	C/M/D
NHFLA-MW5OB-SEP2020	N	2,4,5-Trichlorophenol	23.0	18.0 ULM	18.0 X		ug/l	C/M/D
NHFLA-MW5OB-SEP2020	N	2,4-Dichlorophenol	9.30	7.00 ULM	7.00 X		ug/l	C/M/D
NHFLA-MW5OB-SEP2020	N	2,4-Dimethylphenol	9.30	7.00 UM	7.00 UJ		ug/l	M/D
NHFLA-MW5OB-SEP2020	N	2-Chlorophenol	9.30	7.00 ULM	7.00 UJ		ug/l	C/M/D
NHFLA-MW5OB-SEP2020	N	2-Nitrophenol	9.30	7.00 ULM	7.00 UJ		ug/l	C/M/D
NHFLA-MW5OB-SEP2020	N	3,3'-Dichlorobenzidine	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW5OB-SEP2020	N	4-Chloro-3-methylphenol	9.30	7.00 UM	7.00 UJ		ug/l	M/D
NHFLA-MW5OB-SEP2020	N	Bis(2-ethylhexyl) phthalate	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW5OB-SEP2020	N	di-n-Octyl phthalate	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW5OB-SEP2020	N	Phenol	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW5OB-SEP2020	N	2,4,6-Trichlorophenol	9.30	7.00 ULM	7.00 X		ug/l	C/M/D
NHFLA-MW5OB-SEP2020	N	2-Methylphenol (o-Cresol)	9.30	7.00 UM	7.00 UJ		ug/l	M/D
NHFLA-MW5OB-SEP2020	N	4-Chloroaniline	9.30	7.00 UM	7.00 UJ		ug/l	M/D
NHFLA-MW5OB-SEP2020	N	Cresols, m- & p-	9.30	7.00 UM	7.00 UJ		ug/l	M/D
NHFLA-MW5OB-SEP2020	N	Dimethyl phthalate	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW5OB-SEP2020	N	Pentachlorophenol	23.0	18.0 UL	18.0 X		ug/l	C/D

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Table of All Qualified Results

Test Method: BNASIM	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW2-SEP2020	N	Benzo(g,h,i)perylene	0.190	0.0930 UMM	0.0930 UJ		ug/l	M
NHFLA-MW2-SEP2020	N	Dibenz(a,h)anthracene	0.190	0.0930 UMM	0.0930 UJ		ug/l	M
NHFLA-MW2-SEP2020	N	Indeno(1,2,3-c,d)pyrene	0.190	0.0930 UMM	0.0930 UJ		ug/l	M
NHFLA-MW2-SEP2020	N	2-Methylnaphthalene	0.190	0.110 J	0.110 J		ug/l	D/TR
NHFLA-MW2-SEP2020	N	Acenaphthene	0.190	0.0930 U	0.0930 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Acenaphthylene	0.190	0.0930 U	0.0930 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Anthracene	0.190	0.0930 UM	0.0930 UJ		ug/l	M/D
NHFLA-MW2-SEP2020	N	Benzo(a)anthracene	0.190	0.0930 UMM	0.0930 UJ		ug/l	M
NHFLA-MW2-SEP2020	N	Benzo(a)pyrene	0.190	0.0930 UMM	0.0930 UJ		ug/l	M
NHFLA-MW2-SEP2020	N	Benzo(b)fluoranthene	0.190	0.0930 UMM	0.0930 UJ		ug/l	M
NHFLA-MW2-SEP2020	N	Benzo(k)fluoranthene	0.190	0.0930 UMM	0.0930 UJ		ug/l	M
NHFLA-MW2-SEP2020	N	Chrysene	0.190	0.0930 UMM	0.0930 UJ		ug/l	M
NHFLA-MW2-SEP2020	N	Fluoranthene	0.190	0.0930 UM	0.0930 UJ		ug/l	M
NHFLA-MW2-SEP2020	N	Fluorene	0.190	0.0930 UM	0.0930 UJ		ug/l	M/D
NHFLA-MW2-SEP2020	N	Naphthalene	0.190	0.0930 U	0.0930 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Phenanthrene	0.190	0.0930 U	0.0930 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Pyrene	0.190	0.0930 U	0.0930 UJ		ug/l	D

Test Method: SW6020	Extraction Method: , Dissolved							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP11-SEP2020	FD	Aluminum	100	23.0 J	40.0 U		ug/l	L
NHFLA-DUP11-SEP2020	FD	Chromium	5.00	0.430 J	4.00 U		ug/l	L
NHFLA-DUP11-SEP2020	FD	Copper	3.00	2.18 J	3.00 U		ug/l	L
NHFLA-DUP11-SEP2020	FD	Lead	1.00	0.250 J	0.500 U		ug/l	L
NHFLA-EB19-SEP2020	EB	Aluminum	100	8.20 J	40.0 U		ug/l	L
NHFLA-EB19-SEP2020	EB	Barium	2.00	0.900 J	1.00 U		ug/l	L
NHFLA-EB19-SEP2020	EB	Chromium	5.00	0.360 J	4.00 U		ug/l	L
NHFLA-EB19-SEP2020	EB	Copper	3.00	2.26 J	3.00 U		ug/l	L
NHFLA-EB19-SEP2020	EB	Lead	1.00	0.130 J	0.500 U		ug/l	L
NHFLA-EB19-SEP2020	EB	Magnesium	100	23.0 J	80.0 U		ug/l	L
NHFLA-EB19-SEP2020	EB	Manganese	2.00	1.10 J	2.00 U		ug/l	L
NHFLA-EB19-SEP2020	EB	Sodium	1000	450 J	1000 U		ug/l	L
NHFLA-MW2-SEP2020	N	Aluminum	100	9.70 J	40.0 U		ug/l	L
NHFLA-MW2-SEP2020	N	Copper	3.00	1.40 J	2.00 U		ug/l	L
NHFLA-MW2-SEP2020	N	Lead	1.00	0.210 J	0.500 U		ug/l	L
NHFLA-MW5OB-SEP2020	N	Lead	1.00	0.440 JN	0.440 J	+	ug/l	M/TR
NHFLA-MW5OB-SEP2020	N	Thallium	1.00	0.110 JN	0.110 J	+	ug/l	M/TR

Test Method: SW6020	Extraction Method: SW3010							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP11-SEP2020	FD	Copper	3.00	2.42 J	3.00 U		ug/l	L

Table of All Qualified Results

Test Method: SW6020	Extraction Method: SW3010							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP11-SEP2020	FD	Vanadium	5.00	1.80 J	4.00 U		ug/l	L
NHFLA-DUP11-SEP2020	FD	Antimony	1.00	0.330 J	0.500 U		ug/l	L
NHFLA-DUP11-SEP2020	FD	Beryllium	1.00	0.140 J	0.200 U		ug/l	L
NHFLA-DUP11-SEP2020	FD	Cadmium	1.00	0.150 J	0.200 U		ug/l	L
NHFLA-DUP11-SEP2020	FD	Chromium	5.00	0.840 J	4.00 U		ug/l	L
NHFLA-DUP11-SEP2020	FD	Cobalt	1.00	0.635 J	1.00 U		ug/l	L
NHFLA-DUP11-SEP2020	FD	Thallium	1.00	0.210 J	0.400 U		ug/l	L
NHFLA-DUP11-SEP2020	FD	Aluminum	100	349	349 J		ug/l	D3
NHFLA-EB19-SEP2020	EB	Aluminum	100	5.10 J	40.0 U		ug/l	L
NHFLA-EB19-SEP2020	EB	Copper	3.00	1.80 J	2.00 U		ug/l	L
NHFLA-EB19-SEP2020	EB	Magnesium	100	29.0 J	80.0 U		ug/l	L
NHFLA-EB19-SEP2020	EB	Barium	2.00	0.320 J	1.00 U		ug/l	L
NHFLA-EB19-SEP2020	EB	Chromium	5.00	0.290 J	4.00 U		ug/l	L
NHFLA-EB19-SEP2020	EB	Manganese	2.00	0.820 J	1.00 U		ug/l	L
NHFLA-MW2-SEP2020	N	Aluminum	100	108	40.0 U		ug/l	L/D3
NHFLA-MW2-SEP2020	N	Copper	3.00	1.50 J	2.00 U		ug/l	L
NHFLA-MW2-SEP2020	N	Selenium	5.00	0.250 J	3.00 U		ug/l	L
NHFLA-MW2-SEP2020	N	Vanadium	5.00	0.900 J	4.00 U		ug/l	L
NHFLA-MW2-SEP2020	N	Antimony	1.00	0.180 J	0.500 U		ug/l	L
NHFLA-MW2-SEP2020	N	Beryllium	1.00	0.0640 J	0.200 U		ug/l	L
NHFLA-MW2-SEP2020	N	Cadmium	1.00	0.140 J	0.200 U		ug/l	L
NHFLA-MW2-SEP2020	N	Chromium	5.00	0.360 J	4.00 U		ug/l	L
NHFLA-MW2-SEP2020	N	Cobalt	1.00	0.440 J	1.00 U		ug/l	L
NHFLA-MW2-SEP2020	N	Lead	1.00	0.170 J	0.500 U		ug/l	L
NHFLA-MW2-SEP2020	N	Thallium	1.00	0.110 J	0.400 U		ug/l	L
NHFLA-MW5OB-SEP2020	N	Copper	3.00	1.10 J	2.00 U		ug/l	L
NHFLA-MW5OB-SEP2020	N	Antimony	1.00	0.220 J	0.500 U		ug/l	L
NHFLA-MW5OB-SEP2020	N	Selenium	5.00	3.00 UN	3.00 UJ		ug/l	M

Test Method: SW7196	Extraction Method: NONE							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW2-SEP2020	N	Chromium, Hexavalent	0.0250	0.0125 U	0.0125 X		mg/l	M
NHFLA-MW5OB-SEP2020	N	Chromium, Hexavalent	0.0250	0.00230 J	0.00230 J	-	mg/l	M/TR

Test Method: SW7470	Extraction Method: , Dissolved							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP11-SEP2020	FD	Mercury	0.200	0.0170 J	0.100 U		ug/l	L
NHFLA-EB19-SEP2020	EB	Mercury	0.200	0.0490 J	0.100 U		ug/l	L
NHFLA-MW5OB-SEP2020	N	Mercury	0.200	0.192 J	0.200 U		ug/l	L

Test Method: SW7470	Extraction Method: METHOD							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP11-SEP2020	FD	Mercury	0.200	0.0230 J	0.100 U		ug/l	L
NHFLA-EB19-SEP2020	EB	Mercury	0.200	0.0180 J	0.100 U		ug/l	L

Table of All Qualified Results

Test Method: SW7470 Extraction Method: METHOD

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW5OB-SEP2020	N	Mercury	0.200	0.0170 JA	0.100 U		ug/l	L

Test Method: SW8260 Extraction Method: SW5030

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP11-SEP2020	FD	Acetone	5.00	2.80 J	2.80 J	+	ug/l	I/TR
NHFLA-DUP11-SEP2020	FD	Carbon disulfide	1.00	0.270 J	0.270 J	+	ug/l	I/TR
NHFLA-DUP11-SEP2020	FD	Cyclohexane	1.00	1.70	1.70 J	+	ug/l	I
NHFLA-DUP11-SEP2020	FD	Methylcyclohexane	1.00	5.10	5.10 J	+	ug/l	I
NHFLA-EB19-SEP2020	EB	Methylene chloride	5.00	1.20 J	1.20 J	+	ug/l	I/TR
NHFLA-EB19-SEP2020	EB	Toluene	1.00	1.20	1.20 J	+	ug/l	I
NHFLA-MW2-SEP2020	N	2-Butanone (MEK)	5.00	1.50 J	1.50 J	+	ug/l	I/TR
NHFLA-MW2-SEP2020	N	Acetone	5.00	3.60 J	3.60 J	+	ug/l	I/TR
NHFLA-MW2-SEP2020	N	Carbon disulfide	1.00	0.260 J	0.260 J	+	ug/l	I/TR
NHFLA-MW2-SEP2020	N	Cyclohexane	1.00	1.80	1.80 J	+	ug/l	I
NHFLA-MW2-SEP2020	N	Methylcyclohexane	1.00	5.20	5.20 J	+	ug/l	I
NHFLA-MW2-SEP2020	N	Bromomethane	2.00	1.00 U	1.00 UJ		ug/l	D
NHFLA-MW5OB-SEP2020	N	Benzene	1.00	5.10	5.10 J	+	ug/l	I
NHFLA-MW5OB-SEP2020	N	Carbon disulfide	1.00	0.470 J	0.470 J	+	ug/l	I/TR
NHFLA-MW5OB-SEP2020	N	Cyclohexane	1.00	20.0	20.0 J	+	ug/l	I
NHFLA-MW5OB-SEP2020	N	Ethylbenzene	1.00	3.10	3.10 J	+	ug/l	I
NHFLA-MW5OB-SEP2020	N	Isopropylbenzene (Cumene)	1.00	0.580 J	0.580 J	+	ug/l	I/TR
NHFLA-MW5OB-SEP2020	N	m,p-Xylene	2.00	7.50 M	7.50 J	+	ug/l	M/I
NHFLA-MW5OB-SEP2020	N	Methylcyclohexane	1.00	18.0	18.0 J	+	ug/l	I
NHFLA-MW5OB-SEP2020	N	o-Xylene	1.00	5.10	5.10 J	+	ug/l	I
NHFLA-MW5OB-SEP2020	N	Toluene	1.00	12.0	12.0 J	+	ug/l	I
NHFLA-MW5OB-SEP2020	N	Bromomethane	2.00	1.00 U	1.00 UJ		ug/l	D

Test Method: SW8270 Extraction Method: SW3510

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP11-SEP2020	FD	2,3,4,6-Tetrachlorophenol	9.30	7.00 UL	7.00 X		ug/l	C
NHFLA-DUP11-SEP2020	FD	2,4,5-Trichlorophenol	23.0	18.0 UL	18.0 X		ug/l	C
NHFLA-DUP11-SEP2020	FD	2,4,6-Trichlorophenol	9.30	7.00 UL	7.00 X		ug/l	C
NHFLA-DUP11-SEP2020	FD	2,4-Dichlorophenol	9.30	7.00 UL	7.00 X		ug/l	C
NHFLA-DUP11-SEP2020	FD	2,4-Dinitrophenol	23.0	18.0 UL	18.0 X		ug/l	C
NHFLA-DUP11-SEP2020	FD	2-Chlorophenol	9.30	7.00 UL	7.00 UJ		ug/l	C
NHFLA-DUP11-SEP2020	FD	2-Nitrophenol	9.30	7.00 UL	7.00 UJ		ug/l	C
NHFLA-DUP11-SEP2020	FD	4,6-Dinitro-2-methylphenol	23.0	18.0 UL	18.0 X		ug/l	C
NHFLA-DUP11-SEP2020	FD	4-Nitrophenol	23.0	18.0 UL	18.0 X		ug/l	C
NHFLA-DUP11-SEP2020	FD	Pentachlorophenol	23.0	18.0 UL	18.0 X		ug/l	C
NHFLA-EB19-SEP2020	EB	2,3,4,6-Tetrachlorophenol	9.60	7.20 UL	7.20 X		ug/l	C
NHFLA-EB19-SEP2020	EB	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-EB19-SEP2020	EB	2,4,6-Trichlorophenol	9.60	7.20 UL	7.20 X		ug/l	C

Table of All Qualified Results

Test Method: SW8270	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB19-SEP2020	EB	2,4-Dichlorophenol	9.60	7.20 UL	7.20 X		ug/l	C
NHFLA-EB19-SEP2020	EB	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-EB19-SEP2020	EB	2-Chlorophenol	9.60	7.20 UL	7.20 UJ		ug/l	C
NHFLA-EB19-SEP2020	EB	2-Nitrophenol	9.60	7.20 UL	7.20 UJ		ug/l	C
NHFLA-EB19-SEP2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-EB19-SEP2020	EB	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-EB19-SEP2020	EB	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW2-SEP2020	N	2,3,4,6-Tetrachlorophenol	9.30	7.00 UL	7.00 X		ug/l	C/D
NHFLA-MW2-SEP2020	N	2,4,5-Trichlorophenol	23.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW2-SEP2020	N	2,4,6-Trichlorophenol	9.30	7.00 UL	7.00 X		ug/l	C/D
NHFLA-MW2-SEP2020	N	2,4-Dinitrophenol	23.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW2-SEP2020	N	2-Chlorophenol	9.30	7.00 UL	7.00 UJ		ug/l	C/D
NHFLA-MW2-SEP2020	N	2-Nitrophenol	9.30	7.00 UL	7.00 UJ		ug/l	C/D
NHFLA-MW2-SEP2020	N	4,6-Dinitro-2-methylphenol	23.0	18.0 UL	18.0 X		ug/l	C/D
NHFLA-MW2-SEP2020	N	4-Nitrophenol	23.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW2-SEP2020	N	Pentachlorophenol	23.0	18.0 UL	18.0 X		ug/l	C/D
NHFLA-MW2-SEP2020	N	2,4-Dichlorophenol	9.30	7.00 UL	7.00 X		ug/l	C/D
NHFLA-MW2-SEP2020	N	2,4-Dimethylphenol	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	3,3'-Dichlorobenzidine	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	4-Chloro-3-methylphenol	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Bis(2-ethylhexyl) phthalate	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	di-n-Octyl phthalate	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Caprolactam	9.30	7.00 UM	7.00 X		ug/l	M
NHFLA-MW2-SEP2020	N	1,2,4,5-Tetrachlorobenzene	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	2,2'-Oxybis(1-chloropropane)	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	2,6-Dinitrotoluene	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	2-Chloronaphthalene	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	2-Methylphenol (o-Cresol)	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	4-Bromophenyl phenyl ether	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	4-Chloroaniline	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	4-Chlorophenyl phenyl ether	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Acetophenone	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Atrazine	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Benzaldehyde	9.30	7.00 ULMM	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Benzyl butyl phthalate	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Biphenyl (Diphenyl)	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Bis(2-chloroethoxy) methane	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Carbazole	9.30	7.00 U	7.00 UJ		ug/l	D

Table of All Qualified Results

Test Method: SW8270	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW2-SEP2020	N	Cresols, m- & p-	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Dibenzofuran	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Diethyl phthalate	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Dimethyl phthalate	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Di-n-butyl phthalate	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Hexachlorobenzene	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Hexachlorobutadiene	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Hexachloroethane	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Isophorone	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	Nitrobenzene	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW2-SEP2020	N	N-Nitrosodi-n-propylamine	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW5OB-SEP2020	N	2,3,4,6-Tetrachlorophenol	9.30	7.00 ULM	7.00 X		ug/l	C/M/D
NHFLA-MW5OB-SEP2020	N	2,4,5-Trichlorophenol	23.0	18.0 ULM	18.0 X		ug/l	C/M/D
NHFLA-MW5OB-SEP2020	N	2,4,6-Trichlorophenol	9.30	7.00 ULM	7.00 X		ug/l	C/M/D
NHFLA-MW5OB-SEP2020	N	2,4-Dinitrophenol	23.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW5OB-SEP2020	N	2-Chlorophenol	9.30	7.00 ULM	7.00 UJ		ug/l	C/M/D
NHFLA-MW5OB-SEP2020	N	2-Nitrophenol	9.30	7.00 ULM	7.00 UJ		ug/l	C/M/D
NHFLA-MW5OB-SEP2020	N	4,6-Dinitro-2-methylphenol	23.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW5OB-SEP2020	N	4-Nitrophenol	23.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW5OB-SEP2020	N	Pentachlorophenol	23.0	18.0 UL	18.0 X		ug/l	C/D
NHFLA-MW5OB-SEP2020	N	2,2'-Oxybis(1-chloropropane)	9.30	7.00 UM	7.00 UJ		ug/l	M
NHFLA-MW5OB-SEP2020	N	3-Nitroaniline	23.0	18.0 UM	18.0 UJ		ug/l	M
NHFLA-MW5OB-SEP2020	N	4-Nitroaniline	23.0	18.0 UM	18.0 UJ		ug/l	M
NHFLA-MW5OB-SEP2020	N	Diethyl phthalate	9.30	7.00 UM	7.00 UJ		ug/l	M
NHFLA-MW5OB-SEP2020	N	Hexachlorocyclopentadiene	9.30	7.00 UM	7.00 UJ		ug/l	M
NHFLA-MW5OB-SEP2020	N	N-Nitrosodi-n-propylamine	9.30	7.00 UM	7.00 UJ		ug/l	M
NHFLA-MW5OB-SEP2020	N	N-Nitrosodiphenylamine	9.30	7.00 UM	7.00 UJ		ug/l	M
NHFLA-MW5OB-SEP2020	N	2,4-Dichlorophenol	9.30	7.00 ULM	7.00 X		ug/l	C/M/D
NHFLA-MW5OB-SEP2020	N	2,4-Dimethylphenol	9.30	7.00 UM	7.00 UJ		ug/l	M/D
NHFLA-MW5OB-SEP2020	N	3,3'-Dichlorobenzidine	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW5OB-SEP2020	N	4-Chloro-3-methylphenol	9.30	7.00 UM	7.00 UJ		ug/l	M/D
NHFLA-MW5OB-SEP2020	N	Bis(2-ethylhexyl) phthalate	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW5OB-SEP2020	N	di-n-Octyl phthalate	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW5OB-SEP2020	N	Phenol	9.30	7.00 U	7.00 UJ		ug/l	D
NHFLA-MW5OB-SEP2020	N	Caprolactam	9.30	7.00 UM	7.00 X		ug/l	M
NHFLA-MW5OB-SEP2020	N	2-Methylphenol (o-Cresol)	9.30	7.00 UM	7.00 UJ		ug/l	M/D
NHFLA-MW5OB-SEP2020	N	4-Chloroaniline	9.30	7.00 UM	7.00 UJ		ug/l	M/D
NHFLA-MW5OB-SEP2020	N	Cresols, m- & p-	9.30	7.00 UM	7.00 UJ		ug/l	M/D

Table of All Qualified Results

Test Method: SW8270	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW5OB-SEP2020	N	Dimethyl phthalate	9.30	7.00 U	7.00 UJ		ug/l	D

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW6020, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP11-SEP2020	FD	Antimony	1.00	0.240 J	0.500 J	0.500 U	L
NHFLA-DUP11-SEP2020	FD	Beryllium	1.00	0.100 J	0.200 J	0.200 U	L
NHFLA-DUP11-SEP2020	FD	Cadmium	1.00	0.120 J	0.200 J	0.200 U	L
NHFLA-DUP11-SEP2020	FD	Cobalt	1.00	0.370 J	1.00 J	1.00 U	L
NHFLA-DUP11-SEP2020	FD	Zinc	10.0	9.90 J	9.90 U	9.90 J	TR
NHFLA-EB19-SEP2020	EB	Beryllium	1.00	0.0370 J	0.200 J	0.200 U	L
NHFLA-EB19-SEP2020	EB	Nickel	2.00	0.210 J	0.210 U	0.210 J	TR
NHFLA-EB19-SEP2020	EB	Potassium	1000	50.0 J	50.0 U	50.0 J	TR
NHFLA-MW2-SEP2020	N	Antimony	1.00	0.460 J	0.500 J	0.500 U	L
NHFLA-MW2-SEP2020	N	Beryllium	1.00	0.170 J	0.200 J	0.200 U	L
NHFLA-MW2-SEP2020	N	Cadmium	1.00	0.160 J	0.200 J	0.200 U	L
NHFLA-MW2-SEP2020	N	Cobalt	1.00	0.500 J	1.00 J	1.00 U	L
NHFLA-MW2-SEP2020	N	Manganese	2.00	2080 A	2080 J	2080	
NHFLA-MW2-SEP2020	N	Potassium	1000	10800	10800 J	10800	
NHFLA-MW2-SEP2020	N	Zinc	10.0	8.60 J	8.60 U	8.60 J	TR
NHFLA-MW5OB-SEP2020	N	Iron	100	100	100 J	100	
NHFLA-MW5OB-SEP2020	N	Magnesium	100	23900	23900 J	23900	

Modified Qualifiers for test method SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP11-SEP2020	FD	Lead	1.00	0.620 J	0.620 U	0.620 J	TR
NHFLA-EB19-SEP2020	EB	Sodium	1000	608 J	608 U	608 J	TR
NHFLA-MW2-SEP2020	N	Aluminum	100	108	40.0 J	40.0 U	L/D3
NHFLA-MW5OB-SEP2020	N	Aluminum	100	95.1 J	95.1 U	95.1 J	TR

Modified Qualifiers for test method SW7470, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP11-SEP2020	FD	Mercury	0.200	0.0170 J	0.100 J	0.100 U	L
NHFLA-EB19-SEP2020	EB	Mercury	0.200	0.0490 J	0.100 J	0.100 U	L
NHFLA-MW5OB-SEP2020	N	Mercury	0.200	0.192 J	0.200 J	0.200 U	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-MW2				NHFLA-MW5OB			
	Field sample ID		NHFLA-MS6-	NHFLA-MSD6-SEP2020		NHFLA-MW2-	NHFLA-MS7-	NHFLA-MSD7-SEP2020		NHFLA-
	Lab Sample ID		WG286994-5	WG286994-6		SN8027-3	WG286994-3	WG286994-4		SN8027-1
	Sample Type		MS	MSD		Parent	MS	MSD		Parent
	Sample Date		9/23/20	9/23/20		9/23/20	9/23/20	9/23/20		9/23/20
	Analysis Information		1X	1X		1X	1X	1X		1X
SN8027										
Chromium, Hexavalent (Colorimetric) (SW7196/NONE)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**		**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	
Chromium, Hexavalent (mg/L)	90-111	20	0.00	0.00	NA	0.0250 X	79.5	89.5	11.8	0.00230 J

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-MW2				NHFLA-MW5OB			
	Field sample ID		NHFLA-MS6-	NHFLA-MSD6-SEP2020		NHFLA-MW2-	NHFLA-MS7-	NHFLA-MSD7-SEP2020		NHFLA-
	Lab Sample ID		WG287052-5	WG287052-6		SN8027-3	WG287052-3	WG287052-4		SN8027-1
	Sample Type		MS	MSD		Parent	MS	MSD		Parent
	Sample Date		9/23/20	9/23/20		9/23/20	9/23/20	9/23/20		9/23/20
	Analysis Information		1X	1X		1X	1X	1X		1X
SN8027										
GC/MS-SIM Analysis by SW8270 (BNASIM/SW3510)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**		**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	
2-Methylnaphthalene (µg/L)	39-114	20	69.0	52.9	24.0	0.110 J	79.1	88.4	10.5	**0.320**
Acenaphthene (µg/L)	48-114	20	69.5	48.7	35.3	0.190 UJ	80.2	84.2	6.45	0.190 U
Acenaphthylene (µg/L)	35-121	20	64.2	44.9	35.3	0.190 UJ	74.9	78.9	6.90	0.190 U
Anthracene (µg/L)	53-119	20	58.8	47.1	22.2	0.190 UJ	85.6	84.2	0.00	0.190 U
Benzo(a)anthracene (µg/L)	59-120	20	52.4	44.4	16.6	0.190 UJ	107	105	0.00	0.190 U
Benzo(a)pyrene (µg/L)	53-120	20	40.1	33.7	17.4	0.190 UJ	96.3	89.5	5.71	0.190 U
Benzo(b)fluoranthene (µg/L)	53-126	20	42.8	35.3	19.2	0.190 UJ	107	100	5.13	0.190 U
Benzo(g,h,i)perylene (µg/L)	44-128	20	32.6	35.3	7.87	0.190 UJ	90.9	78.9	12.5	0.190 U
Benzo(k)fluoranthene (µg/L)	54-125	20	36.4	35.8	1.48	0.190 UJ	85.6	84.2	0.00	0.190 U
Chrysene (µg/L)	57-120	20	46.0	45.5	1.17	0.190 UJ	85.6	84.2	0.00	0.190 U
Dibenz(a,h)anthracene (µg/L)	44-131	20	32.6	35.3	7.87	0.190 UJ	90.9	78.9	12.5	0.190 U
Fluoranthene (µg/L)	58-120	20	64.2	53.5	18.2	0.190 UJ	102	100	0.00	0.190 U
Fluorene (µg/L)	50-118	20	69.5	49.2	34.2	0.190 UJ	90.9	94.7	5.71	0.190 U
Indeno(1,2,3-c,d)pyrene (µg/L)	48-130	20	34.2	37.4	8.96	0.190 UJ	90.9	78.9	12.5	0.190 U
Naphthalene (µg/L)	43-114	20	85.6	64.2	28.6	0.190 UJ	96.3	105	10.5	0.190 U
Phenanthrene (µg/L)	53-115	20	74.9	58.8	24.0	0.190 UJ	107	111	4.88	0.190 U

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

			Location ID	NHFLA-MW2			NHFLA-MW5OB			
			Field sample ID	NHFLA-MS6-	NHFLA-MSD6-SEP2020	NHFLA-MW2-	NHFLA-MS7-	NHFLA-MSD7-SEP2020		NHFLA-
			Lab Sample ID	WG287052-5	WG287052-6	SN8027-3	WG287052-3	WG287052-4		SN8027-1
			Sample Type	MS	MSD	Parent	MS	MSD		Parent
			Sample Date	9/23/20	9/23/20	9/23/20	9/23/20	9/23/20		9/23/20
			Analysis Information	1X	1X	1X	1X	1X		1X
GC/MS-SIM Analysis by SW8270 (BNASIM/SW3510)	**Recovery Limit**	**RPD Limit**		**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**		**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	
Pyrene (µg/L)	53-121	20		74.9	53.5	33.3	0.190 UJ	96.3	94.7	0.00	0.190 U

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
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Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-MW2				NHFLA-MW5OB			
	Field sample ID		NHFLA-MS6-	NHFLA-MSD6-SEP2020		NHFLA-MW2-	NHFLA-MS7-	NHFLA-MSD7-SEP2020		NHFLA-
	Lab Sample ID		SN8027-004S	SN8027-004P		SN8027-4	SN8027-002S	SN8027-002P		SN8027-2
	Sample Type		MS	MSD		Parent	MS	MSD		Parent
	Sample Date		9/23/20	9/23/20		9/23/20	9/23/20	9/23/20		9/23/20
	Analysis Information		1X	1X		1X	1X	1X		1X
SN8027										
Mercury in Liquid Waste (Manual Cold-Vapor Technique) (SW7470/DSSVLD)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**		**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	
Mercury (µg/L)	82-119	20	98.8	110	10.7	0.200 U	103	118	13.3	0.200 U

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-MW2				NHFLA-MW5OB			
	Field sample ID		NHFLA-MS6-	NHFLA-MSD6-SEP2020		NHFLA-MW2-	NHFLA-MS7-	NHFLA-MSD7-SEP2020		NHFLA-
	Lab Sample ID		SN8027-003S	SN8027-003P		SN8027-3	SN8027-001S	SN8027-001P		SN8027-1
	Sample Type		MS	MSD		Parent	MS	MSD		Parent
	Sample Date		9/23/20	9/23/20		9/23/20	9/23/20	9/23/20		9/23/20
	Analysis Information		1X	1X		1X	1X	1X		1X
SN8027										
Mercury in Liquid Waste (Manual Cold-Vapor Technique) (SW7470/METHOD)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**		**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	
Mercury (µg/L)	82-119	20	114	112	1.77	0.200 U	97.7	101	3.56	0.200 U

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
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Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID	NHFLA-MW2				NHFLA-MW5OB			
	Field sample ID	NHFLA-MS6-	NHFLA-MSD6-SEP2020		NHFLA-MW2-	NHFLA-MS7-	NHFLA-MSD7-SEP2020		NHFLA-
	Lab Sample ID	WG287051-5	WG287051-6		SN8027-3	WG287051-3	WG287051-4		SN8027-1
	Sample Type	MS	MSD		Parent	MS	MSD		Parent
	Sample Date	9/23/20	9/23/20		9/23/20	9/23/20	9/23/20		9/23/20
	Analysis Information	1X	1X		1X	1X	1X		1X
SN8027									
Semivolatile Organic Compounds by Capillary GC/MS (SW8270/SW3510)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**		**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	
1,2,4,5-Tetrachlorobenzene (µg/L)	35-121	20	68.5	92.1	29.3	9.30 UJ	54.6	68.5	20.7	9.30 U
1,4-Dioxane (p-Dioxane) (µg/L)	10-73	20	30.0	38.5	25.0	9.30 U	20.4	32.1	42.9	9.30 U
2,2'-Oxybis(1-chloropropane) (µg/L)	37-130	20	40.7	70.7	53.8	9.30 UJ	31.5	49.3	42.1	9.30 UJ
2,3,4,6-Tetrachlorophenol (µg/L)	50-128	20	68.5	92.1	29.3	9.30 X	43.1	69.6	45.3	9.30 X
2,4,5-Trichlorophenol (µg/L)	53-123	20	71.7	96.4	29.3	23.0 X	43.1	77.1	54.9	23.0 X
2,4,6-Trichlorophenol (µg/L)	50-125	20	72.8	98.5	30.0	9.30 X	38.9	71.7	57.7	9.30 X
2,4-Dichlorophenol (µg/L)	47-121	20	62.1	87.8	34.3	9.30 X	31.5	62.1	63.6	9.30 X
2,4-Dimethylphenol (µg/L)	31-124	20	55.7	86.7	43.6	9.30 UJ	28.4	58.9	68.3	9.30 UJ
2,4-Dinitrophenol (µg/L)	12-143	20	71.7	96.4	29.3	23.0 X	37.8	23.6	48.3	23.0 X
2,4-Dinitrotoluene (µg/L)	57-128	20	77.1	96.4	22.2	9.30 U	65.1	77.1	14.9	9.30 U
2,6-Dinitrotoluene (µg/L)	57-124	20	72.8	94.2	25.6	9.30 UJ	67.2	77.1	11.8	9.30 U
2-Chloronaphthalene (µg/L)	40-116	20	57.8	79.2	31.3	9.30 UJ	46.2	57.8	20.4	9.30 U
2-Chlorophenol (µg/L)	38-117	20	58.9	83.5	34.6	9.30 UJ	29.4	58.9	65.1	9.30 UJ
2-Methylphenol (o-Cresol) (µg/L)	30-117	20	49.3	68.5	32.7	9.30 UJ	24.2	48.2	64.7	9.30 UJ
2-Nitroaniline (µg/L)	55-127	20	70.7	92.1	26.3	23.0 U	58.8	72.8	19.4	23.0 U
2-Nitrophenol (µg/L)	47-123	20	65.3	94.2	36.2	9.30 UJ	38.9	69.6	54.9	9.30 UJ

Notes:
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Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
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UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
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Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID	NHFLA-MW2				NHFLA-MW5OB			
	Field sample ID	NHFLA-MS6-	NHFLA-MSD6-SEP2020		NHFLA-MW2-	NHFLA-MS7-	NHFLA-MSD7-SEP2020		NHFLA-
	Lab Sample ID	WG287051-5	WG287051-6		SN8027-3	WG287051-3	WG287051-4		SN8027-1
	Sample Type	MS	MSD		Parent	MS	MSD		Parent
	Sample Date	9/23/20	9/23/20		9/23/20	9/23/20	9/23/20		9/23/20
	Analysis Information	1X	1X		1X	1X	1X		1X
Semivolatile Organic Compounds by Capillary GC/MS (SW8270/SW3510)	**Recovery Limit** / **RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**		**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	
3,3'-Dichlorobenzidine (µg/L)	27-129 / 20	50.3	64.2	24.3	9.30 UJ	38.9	64.2	47.4	9.30 UJ
3-Nitroaniline (µg/L)	41-128 / 20	55.7	66.4	17.5	23.0 U	29.4	49.3	48.6	23.0 UJ
4,6-Dinitro-2-methylphenol (µg/L)	44-137 / 20	85.7	118	31.6	23.0 X	52.5	78.2	37.4	23.0 X
4-Bromophenyl phenyl ether (µg/L)	55-124 / 20	74.9	101	29.3	9.30 UJ	63.0	77.1	18.2	9.30 U
4-Chloro-3-methylphenol (µg/L)	52-119 / 20	62.1	84.6	30.7	9.30 UJ	33.6	65.3	62.4	9.30 UJ
4-Chloroaniline (µg/L)	33-117 / 20	47.1	70.7	40.0	9.30 UJ	23.1	51.4	74.3	9.30 UJ
4-Chlorophenyl phenyl ether (µg/L)	53-121 / 20	74.9	101	29.3	9.30 UJ	63.0	79.2	20.9	9.30 U
4-Nitroaniline (µg/L)	52-106 / 20	66.4	83.5	22.9	23.0 U	44.1	66.4	38.5	23.0 UJ
4-Nitrophenol (µg/L)	10-114 / 20	35.3	43.9	21.6	23.0 X	21.0	32.1	40.0	23.0 X
Acetophenone (µg/L)	46-118 / 20	64.2	96.4	40.0	9.30 UJ	52.5	64.2	18.2	9.30 U
Atrazine (µg/L)	44-142 / 20	81.4	113	33.0	9.30 UJ	71.4	87.8	18.7	9.30 U
Benzaldehyde (µg/L)	10-189 / 20	300	428	35.3	9.30 UJ	252	300	15.4	9.30 U
Benzyl butyl phthalate (µg/L)	53-134 / 20	81.4	105	25.3	9.30 UJ	67.2	81.4	17.1	9.30 U
Biphenyl (Diphenyl) (µg/L)	49-115 / 20	72.8	101	32.1	9.30 UJ	58.8	72.8	19.4	9.30 U
Bis(2-chloroethoxy) methane (µg/L)	48-120 / 20	64.2	92.1	35.6	9.30 UJ	50.4	66.4	25.5	9.30 U
Bis(2-chloroethyl) ether (2-Chloroethyl ether) (µg/L)	43-118 / 20	60.0	87.8	37.7	9.30 UJ	46.2	57.8	20.4	9.30 U
Bis(2-ethylhexyl) phthalate (µg/L)	55-135 / 20	81.4	109	29.2	9.30 UJ	56.7	79.2	31.3	9.30 UJ

Notes:
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MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
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Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID	NHFLA-MW2				NHFLA-MW5OB			
	Field sample ID	NHFLA-MS6-	NHFLA-MSD6-SEP2020		NHFLA-MW2-	NHFLA-MS7-	NHFLA-MSD7-SEP2020		NHFLA-
	Lab Sample ID	WG287051-5	WG287051-6		SN8027-3	WG287051-3	WG287051-4		SN8027-1
	Sample Type	MS	MSD		Parent	MS	MSD		Parent
	Sample Date	9/23/20	9/23/20		9/23/20	9/23/20	9/23/20		9/23/20
	Analysis Information	1X	1X		1X	1X	1X		1X
Semivolatile Organic Compounds by Capillary GC/MS (SW8270/SW3510)	**Recovery Limit** / **RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**		**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	
Caprolactam (µg/L)	10-86 / 20	8.35	10.7	24.7	9.30 X	8.82	11.3	23.2	9.30 X
Carbazole (µg/L)	60-122 / 20	72.8	94.2	25.6	9.30 UJ	65.1	77.1	14.9	9.30 U
Cresols, m- & p- (µg/L)	29-110 / 20	46.0	62.1	29.7	9.30 UJ	23.1	46.0	64.6	9.30 UJ
Dibenzofuran (µg/L)	53-118 / 20	72.8	96.4	27.8	9.30 UJ	60.9	74.9	18.8	9.30 U
Diethyl phthalate (µg/L)	56-125 / 20	77.1	98.5	24.4	9.30 UJ	54.6	74.9	29.5	9.30 UJ
Dimethyl phthalate (µg/L)	45-127 / 20	74.9	98.5	27.2	9.30 UJ	46.2	74.9	45.6	9.30 UJ
Di-n-butyl phthalate (µg/L)	59-127 / 20	79.2	103	25.9	9.30 UJ	69.3	81.4	14.1	9.30 U
di-n-Octyl phthalate (µg/L)	51-140 / 20	87.8	116	27.4	9.30 UJ	63.0	85.7	28.6	9.30 UJ
Hexachlorobenzene (µg/L)	53-125 / 20	77.1	98.5	24.4	9.30 UJ	63.0	79.2	20.9	9.30 U
Hexachlorobutadiene (µg/L)	22-124 / 20	51.4	81.4	45.2	9.30 UJ	37.8	53.5	32.6	9.30 U
Hexachlorocyclopentadiene (µg/L)	23-70 / 20	30.0	47.1	44.4	9.30 U	16.4	27.8	50.0	9.30 UJ
Hexachloroethane (µg/L)	21-115 / 20	53.5	83.5	43.8	9.30 UJ	39.9	53.5	27.3	9.30 U
Isophorone (µg/L)	42-124 / 20	55.7	81.4	37.5	9.30 UJ	50.4	60.0	15.4	9.30 U
Nitrobenzene (µg/L)	45-121 / 20	66.4	94.2	34.7	9.30 UJ	60.9	68.5	9.84	9.30 U
N-Nitrosodi-n-propylamine (µg/L)	49-119 / 20	57.8	81.4	33.8	9.30 UJ	42.0	55.7	26.1	9.30 UJ
N-Nitrosodiphenylamine (µg/L)	51-123 / 20	62.1	81.4	26.9	9.30 U	50.4	62.1	18.9	9.30 UJ
Pentachlorophenol (µg/L)	35-138 / 20	105	139	28.1	23.0 X	65.1	102	42.0	23.0 X

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
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U = Compound was not detected and was reported at the limit of quantitation (LOQ).
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Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-MW2				NHFLA-MW5OB			
	Field sample ID		NHFLA-MS6-	NHFLA-MSD6-SEP2020		NHFLA-MW2-	NHFLA-MS7-	NHFLA-MSD7-SEP2020		NHFLA-
	Lab Sample ID		WG287051-5	WG287051-6		SN8027-3	WG287051-3	WG287051-4		SN8027-1
	Sample Type		MS	MSD		Parent	MS	MSD		Parent
	Sample Date		9/23/20	9/23/20		9/23/20	9/23/20	9/23/20		9/23/20
	Analysis Information		1X	1X		1X	1X	1X		1X
Semivolatile Organic Compounds by Capillary GC/MS (SW8270/SW3510)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**		**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	
Phenol (µg/L)	10-78	20	25.7	34.3	28.6	9.30 U	14.7	25.7	52.6	9.30 UJ

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample

µg/L = micrograms per liter
%R = percent recovery
ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
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Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-MW2				NHFLA-MW5OB			
	Field sample ID		NHFLA-MS6-	NHFLA-MSD6-SEP2020		NHFLA-MW2-	NHFLA-MS7-	NHFLA-MSD7-SEP2020		NHFLA-
	Lab Sample ID		SN8027-004S	SN8027-004P		SN8027-4	SN8027-002S	SN8027-002P		SN8027-2
	Sample Type		MS	MSD		Parent	MS	MSD		Parent
	Sample Date		9/23/20	9/23/20		9/23/20	9/23/20	9/23/20		9/23/20
	Analysis Information		5X	5X		5X	5X	5X		5X
SN8027										
Trace Metals by Inductively Coupled Plasma/Mass Spectrometry (SW6020/DSSVLD)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**		**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	
Aluminum (µg/L)	84-117	20	90.6	90.6	0.00	100 U	92.5	92.0	0.517	23.0 J
Antimony (µg/L)	85-117	20	109	111	1.82	1.00 U	113	114	0.881	0.250 J
Arsenic (µg/L)	84-116	20	104	107	2.84	5.00 U	106	106	0.00	5.00 U
Barium (µg/L)	86-114	20	104	106	1.80	**130**	109	112	1.45	**1280**
Beryllium (µg/L)	83-121	20	103	106	2.29	1.00 U	105	110	4.10	1.00 U
Cadmium (µg/L)	87-115	20	98.8	102	2.79	1.00 U	98.8	100	1.21	0.0450 J
Calcium (µg/L)	87-118	20	32.0	8.00	2.33	**126000**	58.8	58.8	0.00	**130000**
Chromium (µg/L)	85-116	20	102	105	2.41	5.00 U	103	105	1.44	0.470 J
Cobalt (µg/L)	86-115	20	101	104	2.53	1.00 U	102	104	1.55	0.0940 J
Copper (µg/L)	85-118	20	100	102	1.96	3.00 U	99.6	102	1.98	2.44 J
Iron (µg/L)	87-118	20	63.5	61.9	0.329	**7890**	73.3	71.9	1.80	**100**
Lead (µg/L)	88-115	20	110	111	0.905	1.00 U	112	116	3.51	0.440 J
Magnesium (µg/L)	83-118	20	70.5	79.5	1.24	**50800**	75.8	78.8	0.690	**23900**
Manganese (µg/L)	87-115	20	78.3	86.7	1.94	**2080**	96.3	98.6	1.32	**404**
Nickel (µg/L)	85-117	20	102	104	2.71	**2.61**	101	103	1.57	0.590 J
Potassium (µg/L)	87-115	20	112	117	2.32	**10800**	102	103	0.576	**6760**

Notes:
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µg/L = micrograms per liter
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ID = Identification
MS = Matrix Spike
MSD = Matrix Spike Duplicate
NA = Not Applicable
RPD = Relative Percent Difference
U = Compound was not detected and was reported at the limit of quantitation (LOQ).
VOC = volatile organic compound

UJ = The analyte was analyzed for, but was not detected. The reported LOQ is approximate.
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Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-MW2				NHFLA-MW5OB			
	Field sample ID		NHFLA-MS6-	NHFLA-MSD6-SEP2020		NHFLA-MW2-	NHFLA-MS7-	NHFLA-MSD7-SEP2020		NHFLA-
	Lab Sample ID		SN8027-004S	SN8027-004P		SN8027-4	SN8027-002S	SN8027-002P		SN8027-2
	Sample Type		MS	MSD		Parent	MS	MSD		Parent
	Sample Date		9/23/20	9/23/20		9/23/20	9/23/20	9/23/20		9/23/20
	Analysis Information		5X	5X		5X	5X	5X		5X
Trace Metals by Inductively Coupled Plasma/Mass Spectrometry (SW6020/DSSVLD)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**		**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	
Selenium (µg/L)	80-120	20	101	99.8	0.995	0.220 J	102	103	0.976	5.00 U
Silver (µg/L)	85-116	20	98.8	100	1.41	1.00 U	96.4	98.6	2.26	1.00 U
Sodium (µg/L)	85-117	20	36.9	61.5	1.50	**517000**	14.6	17.9	0.219	**902000**
Thallium (µg/L)	82-116	20	108	103	4.74	0.300 J	116	118	1.71	0.110 J
Vanadium (µg/L)	86-115	20	103	105	2.30	5.00 U	105	107	2.07	0.660 J
Zinc (µg/L)	83-119	20	96.3	99.0	2.66	8.60 J	98.3	99.8	1.41	**16.0**

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Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-MW2				NHFLA-MW5OB			
	Field sample ID		NHFLA-MS6-	NHFLA-MSD6-SEP2020		NHFLA-MW2-	NHFLA-MS7-	NHFLA-MSD7-SEP2020		NHFLA-
	Lab Sample ID		SN8027-003S	SN8027-003P		SN8027-3	SN8027-001S	SN8027-001P		SN8027-1
	Sample Type		MS	MSD		Parent	MS	MSD		Parent
	Sample Date		9/23/20	9/23/20		9/23/20	9/23/20	9/23/20		9/23/20
	Analysis Information		5X	5X		5X	5X	5X		5X
SN8027										
Trace Metals by Inductively Coupled Plasma/Mass Spectrometry (SW6020/SW3010)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**		**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	
Aluminum (µg/L)	84-117	20	93.9	96.8	2.99	100 U	100	99.2	0.957	95.1 J
Antimony (µg/L)	85-117	20	104	105	0.957	1.00 U	102	102	0.00	1.00 U
Arsenic (µg/L)	84-116	20	105	104	0.957	5.00 U	102	103	0.976	5.00 U
Barium (µg/L)	86-114	20	97.5	99.0	1.44	**120**	99.5	101	0.924	**1240**
Beryllium (µg/L)	83-121	20	99.1	100	1.00	1.00 U	96.2	98.4	2.26	1.00 U
Cadmium (µg/L)	87-115	20	98.8	98.8	0.00	1.00 U	98.8	97.6	1.22	1.00 U
Calcium (µg/L)	87-118	20	-40.0	40.0	1.47	**136000**	0.00	520	9.12	**136000**
Chromium (µg/L)	85-116	20	102	102	0.489	5.00 U	97.7	97.2	0.512	0.560 J
Cobalt (µg/L)	86-115	20	101	101	0.198	1.00 U	97.0	96.2	0.828	0.100 J
Copper (µg/L)	85-118	20	99.4	99.8	0.399	3.00 U	96.0	95.2	0.833	3.00 U
Iron (µg/L)	87-118	20	83.0	99.0	1.64	**8860**	94.9	110	9.90	**491**
Lead (µg/L)	88-115	20	104	105	0.957	1.00 U	105	105	0.00	0.110 J
Magnesium (µg/L)	83-118	20	94.0	94.0	0.00	**53600**	96.0	98.0	0.329	**25500**
Manganese (µg/L)	87-115	20	96.0	98.0	0.375	**2180**	96.8	95.8	0.553	**422**
Nickel (µg/L)	85-117	20	101	101	0.394	**2.38**	95.5	95.1	0.419	0.420 J
Potassium (µg/L)	87-115	20	102	102	0.00	**10200**	103	102	0.580	**7050**

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Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-MW2				NHFLA-MW5OB			
	Field sample ID		NHFLA-MS6-	NHFLA-MSD6-SEP2020		NHFLA-MW2-	NHFLA-MS7-	NHFLA-MSD7-SEP2020		NHFLA-
	Lab Sample ID		SN8027-003S	SN8027-003P		SN8027-3	SN8027-001S	SN8027-001P		SN8027-1
	Sample Type		MS	MSD		Parent	MS	MSD		Parent
	Sample Date		9/23/20	9/23/20		9/23/20	9/23/20	9/23/20		9/23/20
	Analysis Information		5X	5X		5X	5X	5X		5X
Trace Metals by Inductively Coupled Plasma/Mass Spectrometry (SW6020/SW3010)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**		**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	
Selenium (µg/L)	80-120	20	98.8	101	2.00	5.00 U	62.0	65.2	5.03	5.00 UJ
Silver (µg/L)	85-116	20	97.6	97.4	0.205	1.00 U	96.8	96.0	0.830	1.00 U
Sodium (µg/L)	85-117	20	53.3	80.0	0.366	**542000**	-40.0	13.3	0.419	**956000**
Thallium (µg/L)	82-116	20	102	102	0.00	1.00 U	107	107	0.00	1.00 U
Vanadium (µg/L)	86-115	20	104	103	0.579	5.00 U	99.8	98.4	1.41	0.820 J
Zinc (µg/L)	83-119	20	96.0	95.8	0.209	10.0 U	98.4	97.2	1.23	10.0 U

Notes:
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Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-MW2				NHFLA-MW5OB			
	Field sample ID		NHFLA-MS6-	NHFLA-MSD6-SEP2020		NHFLA-MW2-	NHFLA-MS7-	NHFLA-MSD7-SEP2020		NHFLA-
	Lab Sample ID		WG287676-6	WG287676-7		SN8027-3	WG287676-8	WG287676-9		SN8027-1
	Sample Type		MS	MSD		Parent	MS	MSD		Parent
	Sample Date		9/23/20	9/23/20		9/23/20	9/23/20	9/23/20		9/23/20
	Analysis Information		1X	1X		1X	1X	1X		1X
SN8027										
Volatile Organic Compounds by GC/MS (SW8260/SW5030)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**		**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	
1,1,1-Trichloroethane (µg/L)	74-131	20	117	114	2.77	1.00 U	114	118	3.63	1.00 U
1,1,2,2-Tetrachloroethane (µg/L)	71-121	20	94.6	89.8	5.21	1.00 U	90.4	84.0	7.34	1.00 U
1,1,2-Trichloro-1,2,2-trifluoroethane (µg/L)	70-136	20	124	124	0.161	1.00 U	125	122	2.92	1.00 U
1,1,2-Trichloroethane (µg/L)	80-119	20	105	102	2.51	1.00 U	111	107	3.30	1.00 U
1,1-Dichloroethane (µg/L)	77-125	20	104	105	0.953	1.00 U	106	111	4.79	1.00 U
1,1-Dichloroethene (µg/L)	71-131	20	104	109	5.08	1.00 U	109	109	0.184	1.00 U
1,2,3-Trichlorobenzene (µg/L)	69-129	20	93.8	92.8	1.07	1.00 U	90.8	87.6	3.59	1.00 U
1,2,4-Trichlorobenzene (µg/L)	69-130	20	99.4	99.0	0.403	1.00 U	101	102	0.989	1.00 U
1,2-Dibromo-3-chloropropane (µg/L)	62-128	20	92.4	83.6	10.0	1.00 U	81.4	72.2	12.0	1.00 U
1,2-Dibromoethane (EDB) (µg/L)	77-121	20	97.8	97.6	0.205	1.00 U	95.2	90.4	5.17	1.00 U
1,2-Dichlorobenzene (µg/L)	80-119	20	102	101	1.77	1.00 U	103	104	1.55	1.00 U
1,2-Dichloroethane (µg/L)	73-128	20	108	105	2.45	1.00 U	101	99.6	1.59	1.00 U
1,2-Dichloropropane (µg/L)	78-122	20	101	100	0.596	1.00 U	104	106	1.91	1.00 U
1,3-Dichlorobenzene (µg/L)	80-119	20	101	101	0.198	1.00 U	104	108	3.39	1.00 U
1,4-Dichlorobenzene (µg/L)	79-118	20	101	100	0.597	1.00 U	103	106	3.45	1.00 U
2-Butanone (MEK) (µg/L)	56-143	20	86.8	75.4	13.6	1.50 J	81.4	81.2	0.246	5.00 U

Notes:
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NA = Not Applicable
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Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID	NHFLA-MW2				NHFLA-MW5OB			
	Field sample ID	NHFLA-MS6-	NHFLA-MSD6-SEP2020		NHFLA-MW2-	NHFLA-MS7-	NHFLA-MSD7-SEP2020		NHFLA-
	Lab Sample ID	WG287676-6	WG287676-7		SN8027-3	WG287676-8	WG287676-9		SN8027-1
	Sample Type	MS	MSD		Parent	MS	MSD		Parent
	Sample Date	9/23/20	9/23/20		9/23/20	9/23/20	9/23/20		9/23/20
	Analysis Information	1X	1X		1X	1X	1X		1X
Volatile Organic Compounds by GC/MS (SW8260/SW5030)	**Recovery Limit** / **RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**		**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	
2-Hexanone (µg/L)	57-139 / 20	82.6	83.6	1.20	5.00 U	83.4	72.6	13.8	5.00 U
4-Methyl-2-pentanone (MIBK) (µg/L)	67-130 / 20	93.4	91.0	2.60	5.00 U	87.6	79.4	9.82	5.00 U
Acetone (µg/L)	39-160 / 20	95.6	90.4	5.19	3.60 J	92.4	79.2	15.4	5.00 U
Benzene (µg/L)	79-120 / 20	102	104	1.94	1.00 U	106	109	2.38	**5.10 J**
Bromochloromethane (µg/L)	78-123 / 20	107	107	0.748	1.00 U	106	109	2.42	1.00 U
Bromodichloromethane (µg/L)	79-125 / 20	111	110	1.45	1.00 U	112	112	0.00	1.00 U
Bromoform (µg/L)	66-130 / 20	98.4	94.6	3.94	1.00 U	92.8	85.8	7.84	1.00 U
Bromomethane (µg/L)	53-141 / 20	77.0	94.6	20.5	2.00 U	90.4	72.8	21.6	2.00 UJ
Carbon disulfide (µg/L)	64-133 / 20	104	106	1.71	0.260 J	106	108	1.86	0.470 J
Carbon tetrachloride (µg/L)	72-136 / 20	113	111	1.61	1.00 U	111	117	5.10	1.00 U
Chlorobenzene (µg/L)	82-118 / 20	100	99.6	0.401	1.00 U	103	107	3.42	1.00 U
Chloroethane (µg/L)	60-138 / 20	177	171	3.56	2.00 U	222	202	9.43	2.00 U
Chloroform (µg/L)	79-124 / 20	108	107	0.742	1.00 U	108	112	4.01	1.00 U
Chloromethane (µg/L)	50-139 / 20	95.2	98.4	3.31	2.00 U	99.0	100	1.40	2.00 U
cis-1,2-Dichloroethene (µg/L)	78-123 / 20	95.6	100	4.50	1.00 U	102	106	4.24	1.00 U
cis-1,3-Dichloropropene (µg/L)	75-124 / 20	107	108	1.11	1.00 U	107	109	2.03	1.00 U
Cyclohexane (µg/L)	71-130 / 20	111	115	3.60	**1.80 J**	114	120	3.31	**20.0 J**

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Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-MW2				NHFLA-MW5OB			
	Field sample ID		NHFLA-MS6-	NHFLA-MSD6-SEP2020		NHFLA-MW2-	NHFLA-MS7-	NHFLA-MSD7-SEP2020		NHFLA-
	Lab Sample ID		WG287676-6	WG287676-7		SN8027-3	WG287676-8	WG287676-9		SN8027-1
	Sample Type		MS	MSD		Parent	MS	MSD		Parent
	Sample Date		9/23/20	9/23/20		9/23/20	9/23/20	9/23/20		9/23/20
	Analysis Information		1X	1X		1X	1X	1X		1X
Volatile Organic Compounds by GC/MS (SW8260/SW5030)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**		**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	
Dibromochloromethane (µg/L)	74-126	20	104	102	1.55	1.00 U	102	99.8	2.57	1.00 U
Dichlorodifluoromethane (µg/L)	32-152	20	91.6	93.4	1.95	2.00 U	91.4	94.0	2.80	2.00 U
Ethylbenzene (µg/L)	79-121	20	110	110	0.182	1.00 U	110	114	3.04	**3.10 J**
Isopropylbenzene (Cumene) (µg/L)	72-131	20	112	112	0.00	1.00 U	115	120	3.88	0.580 J
m,p-Xylene (µg/L)	80-121	20	114	113	0.881	2.00 U	118	124	4.69	**7.50 J**
Methyl acetate (µg/L)	56-136	20	82.4	78.6	4.72	1.00 U	74.4	66.6	11.1	1.00 U
Methyl tert-butyl ether (MTBE) (µg/L)	71-124	20	107	102	4.97	1.00 U	103	98.4	4.18	1.00 U
Methylcyclohexane (µg/L)	72-132	20	113	116	2.88	**5.20 J**	114	119	3.54	**18.0 J**
Methylene chloride (µg/L)	74-124	20	101	100	0.597	5.00 U	102	104	1.75	5.00 U
o-Xylene (µg/L)	78-122	20	112	111	1.26	1.00 U	110	114	3.12	**5.10 J**
Styrene (µg/L)	78-123	20	110	110	0.182	1.00 U	111	115	3.72	1.00 U
Tetrachloroethene (PCE) (µg/L)	74-129	20	98.6	102	3.19	1.00 U	104	107	2.47	1.00 U
Toluene (µg/L)	80-121	20	104	107	2.28	1.00 U	104	109	3.69	**12.0 J**
trans-1,2-Dichloroethene (µg/L)	75-124	20	104	103	0.580	1.00 U	106	110	4.08	1.00 U
trans-1,3-Dichloropropene (µg/L)	73-127	20	109	106	2.42	1.00 U	107	104	2.84	1.00 U
Trichloroethene (TCE) (µg/L)	79-123	20	108	112	2.91	1.00 U	108	115	5.56	1.00 U
Trichlorofluoromethane (µg/L)	65-141	20	137	133	3.11	2.00 U	128	126	1.57	2.00 U

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Table 8
Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		NHFLA-MW2				NHFLA-MW5OB			
	Field sample ID		NHFLA-MS6-	NHFLA-MSD6-SEP2020		NHFLA-MW2-	NHFLA-MS7-	NHFLA-MSD7-SEP2020		NHFLA-
	Lab Sample ID		WG287676-6	WG287676-7		SN8027-3	WG287676-8	WG287676-9		SN8027-1
	Sample Type		MS	MSD		Parent	MS	MSD		Parent
	Sample Date		9/23/20	9/23/20		9/23/20	9/23/20	9/23/20		9/23/20
	Analysis Information		1X	1X		1X	1X	1X		1X
Volatile Organic Compounds by GC/MS (SW8260/SW5030)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**		**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	
Vinyl chloride (µg/L)	58-137	20	97.6	103	5.00	2.00 U	106	109	2.05	2.00 U

Notes:
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MS = Matrix Spike
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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling
Field Duplicates for SDG: SN8027

Location	Analysis
NHFLA-MW2	A2340B

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Hardness (as CaCO3)	561000	676000	650	18.6	35	OK	NA

Location	Analysis
NHFLA-MW2	BNASIM

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	2-Methylnaphthalene	0.110	0.120	0.190	8.70	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Acenaphthene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Acenaphthylene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Anthracene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Benzo(a)anthracene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Benzo(a)pyrene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Benzo(b)fluoranthene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Benzo(g,h,i)perylene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Benzo(k)fluoranthene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Chrysene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Dibenz(a,h)anthracene	ND	ND	0.190	NA	35	NA	OK

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Field Duplicate Report By SDG

C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling
Field Duplicates for SDG: SN8027

Location	Analysis
NHFLA-MW2	BNASIM

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Fluoranthene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Fluorene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Indeno(1,2,3-c,d)pyrene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Naphthalene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Phenanthrene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Pyrene	ND	ND	0.190	NA	35	NA	OK

Location	Analysis
NHFLA-MW2	SW6020

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Aluminum	108	349	100	105	35	NA	241
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-4 / SN8027-6	Aluminum (DSSVLD)	ND	ND	100	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Antimony	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-4 / SN8027-6	Antimony (DSSVLD)	0.460	0.240	1.00	62.9	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Arsenic	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-4 / SN8027-6	Arsenic (DSSVLD)	ND	ND	5.00	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling
Field Duplicates for SDG: SN8027

Location	Analysis
NHFLA-MW2	SW6020

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Barium	120	141	2.00	16.1	35	OK	NA
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-4 / SN8027-6	Barium (DSSVLD)	130	128	2.00	1.55	35	OK	NA
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Beryllium	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-4 / SN8027-6	Beryllium (DSSVLD)	0.170	0.100	1.00	51.9	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Cadmium	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-4 / SN8027-6	Cadmium (DSSVLD)	0.160	0.120	1.00	28.6	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Calcium	136000	164000	100	18.7	35	OK	NA
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-4 / SN8027-6	Calcium (DSSVLD)	126000	127000	100	0.791	35	OK	NA
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Chromium	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-4 / SN8027-6	Chromium (DSSVLD)	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Cobalt	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-4 / SN8027-6	Cobalt (DSSVLD)	0.500	0.370	1.00	29.9	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Copper	ND	ND	3.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-4 / SN8027-6	Copper (DSSVLD)	ND	ND	3.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Iron	8860	11400	100	25.1	35	OK	NA

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling
Field Duplicates for SDG: SN8027

Location	Analysis
NHFLA-MW2	SW6020

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-4 / SN8027-6	Iron (DSSVLD)	7890	7820	100	0.891	35	OK	NA
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Lead	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-4 / SN8027-6	Lead (DSSVLD)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Magnesium	53600	64900	100	19.1	35	OK	NA
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-4 / SN8027-6	Magnesium (DSSVLD)	50800	52500	100	3.29	35	OK	NA
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Manganese	2180	2630	2.00	18.7	35	OK	NA
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-4 / SN8027-6	Manganese (DSSVLD)	2080	2070	2.00	0.482	35	OK	NA
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Nickel	2.38	3.47	2.00	37.3	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-4 / SN8027-6	Nickel (DSSVLD)	2.61	2.41	2.00	7.97	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Potassium	10200	11900	1000	15.4	35	OK	NA
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-4 / SN8027-6	Potassium (DSSVLD)	10800	11000	1000	1.83	35	OK	NA
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Selenium	ND	0.230	5.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-4 / SN8027-6	Selenium (DSSVLD)	0.220	ND	5.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Silver	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-4 / SN8027-6	Silver (DSSVLD)	ND	ND	1.00	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling
Field Duplicates for SDG: SN8027

Location	Analysis
NHFLA-MW2	SW6020

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Sodium	542000	663000	1000	20.1	35	OK	NA
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-4 / SN8027-6	Sodium (DSSVLD)	517000	535000	1000	3.42	35	OK	NA
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Thallium	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-4 / SN8027-6	Thallium (DSSVLD)	0.300	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Vanadium	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-4 / SN8027-6	Vanadium (DSSVLD)	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Zinc	ND	8.60	10.0	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-4 / SN8027-6	Zinc (DSSVLD)	ND	ND	10.0	NA	35	NA	OK

Location	Analysis
NHFLA-MW2	SW7196

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Chromium, Hexavalent	ND	ND	0.0250	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling
Field Duplicates for SDG: SN8027

Location	Analysis
NHFLA-MW2	SW7470

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Mercury	ND	ND	0.200	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-4 / SN8027-6	Mercury (DSSVLD)	ND	0.0170	0.200	NA	35	NA	OK

Location	Analysis
NHFLA-MW2	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	1,1,1-Trichloroethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	1,1,2,2-Tetrachloroethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	1,1,2-Trichloroethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	1,1-Dichloroethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	1,1-Dichloroethene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	1,2,3-Trichlorobenzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	1,2,4-Trichlorobenzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	1,2-Dibromo-3-chloropropane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	1,2-Dibromoethane (EDB)	ND	ND	1.00	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling
Field Duplicates for SDG: SN8027

Location	Analysis
NHFLA-MW2	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	1,2-Dichlorobenzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	1,2-Dichloroethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	1,2-Dichloropropane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	1,3-Dichlorobenzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	1,4-Dichlorobenzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	2-Butanone (MEK)	1.50	ND	5.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	2-Hexanone	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	4-Methyl-2-pentanone (MIBK)	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Acetone	3.60	2.80	5.00	25.0	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Benzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Bromochloromethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Bromodichloromethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Bromoform	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Bromomethane	ND	ND	2.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Carbon disulfide	0.260	0.270	1.00	3.77	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling
Field Duplicates for SDG: SN8027

Location	Analysis
NHFLA-MW2	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Carbon tetrachloride	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Chlorobenzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Chloroethane	ND	ND	2.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Chloroform	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Chloromethane	ND	ND	2.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	cis-1,2-Dichloroethene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	cis-1,3-Dichloropropene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Cyclohexane	1.80	1.70	1.00	5.71	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Dibromochloromethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Dichlorodifluoromethane	ND	ND	2.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Ethylbenzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Isopropylbenzene (Cumene)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	m,p-Xylene	ND	ND	2.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Methyl acetate	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Methyl tert-butyl ether (MTBE)	ND	ND	1.00	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling
Field Duplicates for SDG: SN8027

Location	Analysis
NHFLA-MW2	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Methylcyclohexane	5.20	5.10	1.00	1.94	35	OK	NA
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Methylene chloride	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	o-Xylene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Styrene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Tetrachloroethene (PCE)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Toluene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	trans-1,2-Dichloroethene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	trans-1,3-Dichloropropene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Trichloroethene (TCE)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Trichlorofluoromethane	ND	ND	2.00	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Vinyl chloride	ND	ND	2.00	NA	35	NA	OK

Location	Analysis
NHFLA-MW2	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	1,2,4,5-Tetrachlorobenzene	ND	ND	9.30	NA	35	NA	OK

FD = Field Duplicate
RL = Reporting Limit
RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling
Field Duplicates for SDG: SN8027

Location	Analysis
NHFLA-MW2	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	1,4-Dioxane (p-Dioxane)	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	2,2'-Oxybis(1-chloropropane)	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	2,3,4,6-Tetrachlorophenol	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	2,4,5-Trichlorophenol	ND	ND	23.0	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	2,4,6-Trichlorophenol	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	2,4-Dichlorophenol	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	2,4-Dimethylphenol	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	2,4-Dinitrophenol	ND	ND	23.0	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	2,4-Dinitrotoluene	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	2,6-Dinitrotoluene	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	2-Chloronaphthalene	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	2-Chlorophenol	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	2-Methylphenol (o-Cresol)	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	2-Nitroaniline	ND	ND	23.0	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	2-Nitrophenol	ND	ND	9.30	NA	35	NA	OK

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RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling
Field Duplicates for SDG: SN8027

Location	Analysis
NHFLA-MW2	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	3,3'-Dichlorobenzidine	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	3-Nitroaniline	ND	ND	23.0	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	4,6-Dinitro-2-methylphenol	ND	ND	23.0	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	4-Bromophenyl phenyl ether	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	4-Chloro-3-methylphenol	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	4-Chloroaniline	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	4-Chlorophenyl phenyl ether	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	4-Nitroaniline	ND	ND	23.0	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	4-Nitrophenol	ND	ND	23.0	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Acetophenone	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Atrazine	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Benzaldehyde	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Benzyl butyl phthalate	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Biphenyl (Diphenyl)	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Bis(2-chloroethoxy) methane	ND	ND	9.30	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling
Field Duplicates for SDG: SN8027

Location	Analysis
NHFLA-MW2	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Bis(2-ethylhexyl) phthalate	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Caprolactam	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Carbazole	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Cresols, m- & p-	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Di-n-butyl phthalate	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	di-n-Octyl phthalate	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Dibenzofuran	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Diethyl phthalate	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Dimethyl phthalate	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Hexachlorobenzene	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Hexachlorobutadiene	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Hexachlorocyclopentadiene	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Hexachloroethane	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Isophorone	ND	ND	9.30	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling
Field Duplicates for SDG: SN8027

Location	Analysis
NHFLA-MW2	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	N-Nitrosodi-n-propylamine	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	N-Nitrosodiphenylamine	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Nitrobenzene	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Pentachlorophenol	ND	ND	23.0	NA	35	NA	OK
NHFLA-MW2-SEP2020 / NHFLA-DUP11-SEP2020	SN8027-3 / SN8027-5	Phenol	ND	ND	9.30	NA	35	NA	OK

FD = Field Duplicate
RL = Reporting Limit
RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Automated Data Review Detail Report for SN8027
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Rejected Results

Test Method: SW7196	Extraction Method: NONE	Leach Method: NONE							
FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-MW2-SEP2020	SN8027-3	W	N	Chromium, Hexavalent	0.0250	0.0125 U	0.0125 X	mg/l	M

Test Method: SW8270	Extraction Method: SW3510	Leach Method: NONE							
FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-DUP11-SEP2020	SN8027-5	W	FD	2,3,4,6-Tetrachlorophenol	9.30	7.00 UL	7.00 X	ug/l	C
NHFLA-DUP11-SEP2020	SN8027-5	W	FD	2,4,5-Trichlorophenol	23.0	18.0 UL	18.0 X	ug/l	C
NHFLA-DUP11-SEP2020	SN8027-5	W	FD	2,4,6-Trichlorophenol	9.30	7.00 UL	7.00 X	ug/l	C
NHFLA-DUP11-SEP2020	SN8027-5	W	FD	2,4-Dichlorophenol	9.30	7.00 UL	7.00 X	ug/l	C
NHFLA-DUP11-SEP2020	SN8027-5	W	FD	2,4-Dinitrophenol	23.0	18.0 UL	18.0 X	ug/l	C
NHFLA-DUP11-SEP2020	SN8027-5	W	FD	4,6-Dinitro-2-methylphenol	23.0	18.0 UL	18.0 X	ug/l	C
NHFLA-DUP11-SEP2020	SN8027-5	W	FD	4-Nitrophenol	23.0	18.0 UL	18.0 X	ug/l	C
NHFLA-DUP11-SEP2020	SN8027-5	W	FD	Pentachlorophenol	23.0	18.0 UL	18.0 X	ug/l	C
NHFLA-EB19-SEP2020	SN8027-7	W	EB	2,3,4,6-Tetrachlorophenol	9.60	7.20 UL	7.20 X	ug/l	C
NHFLA-EB19-SEP2020	SN8027-7	W	EB	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-EB19-SEP2020	SN8027-7	W	EB	2,4,6-Trichlorophenol	9.60	7.20 UL	7.20 X	ug/l	C
NHFLA-EB19-SEP2020	SN8027-7	W	EB	2,4-Dichlorophenol	9.60	7.20 UL	7.20 X	ug/l	C
NHFLA-EB19-SEP2020	SN8027-7	W	EB	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-EB19-SEP2020	SN8027-7	W	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-EB19-SEP2020	SN8027-7	W	EB	4-Nitrophenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-EB19-SEP2020	SN8027-7	W	EB	Pentachlorophenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-MW2-SEP2020	SN8027-3	W	N	2,3,4,6-Tetrachlorophenol	9.30	7.00 UL	7.00 X	ug/l	C/D
NHFLA-MW2-SEP2020	SN8027-3	W	N	2,4,5-Trichlorophenol	23.0	18.0 UL	18.0 X	ug/l	C
NHFLA-MW2-SEP2020	SN8027-3	W	N	2,4,6-Trichlorophenol	9.30	7.00 UL	7.00 X	ug/l	C/D
NHFLA-MW2-SEP2020	SN8027-3	W	N	2,4-Dichlorophenol	9.30	7.00 UL	7.00 X	ug/l	C/D
NHFLA-MW2-SEP2020	SN8027-3	W	N	2,4-Dinitrophenol	23.0	18.0 UL	18.0 X	ug/l	C

Automated Data Review Detail Report for SN8027
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Rejected Results

Test Method: SW8270	Extraction Method: SW3510	Leach Method: NONE							
FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-MW2-SEP2020	SN8027-3	W	N	4,6-Dinitro-2-methylphenol	23.0	18.0 UL	18.0 X	ug/l	C/D
NHFLA-MW2-SEP2020	SN8027-3	W	N	4-Nitrophenol	23.0	18.0 UL	18.0 X	ug/l	C
NHFLA-MW2-SEP2020	SN8027-3	W	N	Caprolactam	9.30	7.00 UM	7.00 X	ug/l	M
NHFLA-MW2-SEP2020	SN8027-3	W	N	Pentachlorophenol	23.0	18.0 UL	18.0 X	ug/l	C/D
NHFLA-MW5OB-SEP2020	SN8027-1	W	N	2,3,4,6-Tetrachlorophenol	9.30	7.00 ULM	7.00 X	ug/l	C/M/D
NHFLA-MW5OB-SEP2020	SN8027-1	W	N	2,4,5-Trichlorophenol	23.0	18.0 ULM	18.0 X	ug/l	C/M/D
NHFLA-MW5OB-SEP2020	SN8027-1	W	N	2,4,6-Trichlorophenol	9.30	7.00 ULM	7.00 X	ug/l	C/M/D
NHFLA-MW5OB-SEP2020	SN8027-1	W	N	2,4-Dichlorophenol	9.30	7.00 ULM	7.00 X	ug/l	C/M/D
NHFLA-MW5OB-SEP2020	SN8027-1	W	N	2,4-Dinitrophenol	23.0	18.0 UL	18.0 X	ug/l	C
NHFLA-MW5OB-SEP2020	SN8027-1	W	N	4,6-Dinitro-2-methylphenol	23.0	18.0 UL	18.0 X	ug/l	C
NHFLA-MW5OB-SEP2020	SN8027-1	W	N	4-Nitrophenol	23.0	18.0 UL	18.0 X	ug/l	C
NHFLA-MW5OB-SEP2020	SN8027-1	W	N	Caprolactam	9.30	7.00 UM	7.00 X	ug/l	M
NHFLA-MW5OB-SEP2020	SN8027-1	W	N	Pentachlorophenol	23.0	18.0 UL	18.0 X	ug/l	C/D

Automated Data Review Detail Report for SN8027
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
A2340B/METHOD/NONE	4	4

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
A2340B/METHOD/NONE	NHFLA-DUP11-SEP2020	FD	5	Hardness (as CaCO3)	676000	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-EB19-SEP2020	EB	5	Hardness (as CaCO3)	300 J	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW2-SEP2020	N	5	Hardness (as CaCO3)	561000	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW5OB-SEP2020	N	5	Hardness (as CaCO3)	444000	85.0	530	650	5	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
C	LCS Recovery
D	MS RPD
D3	Field Duplicate RPD
I	Surrogate recovery outside project limits.
L	Lab Blank
M	MS Recovery
TR	Trace Level Detect
V	Equipment Blank

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Automated Data Review Detail Report for SN8027
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Review Questions

Method: A2340B

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?			•	no batch QC for hardness
Were target analytes in the method blank less than MDL?			•	
Were target analytes in the field blank less than MDL?		•		equipment blank detection below LOQ
Was an LCS/LCSD pair prepared and analyzed with each batch?			•	
Were LCS/LCSD recoveries within project acceptance limits?			•	
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Automated Data Review Detail Report for SN8027
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Review Questions

Method: BNASIM

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		MSD for sample -003 1 of 3 surrogates biased high. Qualifications not assigned based on this QC outlier alone.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			equipment blank and trip blank.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -003 MS/MSD had 8 RPD's outside of criteria and 8 analytes with both MS/MSD recoveries biased low and 3 with one or the other MS/MSD recoveries biased low. Flags also apply to field duplicate sample -005. See GCMS SVOC-SIM MS recovery outlier table for details
Was the MS/MSD RPD within project acceptance limits?		•		Sample -003 MS/MSD had 8 RPD's outside of criteria. See QC outlier table for details.
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Calibration outliers as noted in SDG case narrative were not addressed as part of this stage 2A review.
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Automated Data Review Detail Report for SN8027
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Review Questions

Method: SW6020

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch NI28IMW2 method blank had detections above the LOQ for barium, manganese, iron and below the LOQ for aluminum, antimony, beryllium, cadmium, calcium, chromium, cobalt, copper, lead, magnesium, nickel, potassium, sodium, thallium, vanadium, selenium. Client sample -003 results for the following were qualified with U/L flags/reason codes - aluminum, antimony, beryllium, cadmium, chromium, cobalt, copper, lead, selenium, thallium, vanadium. QC batch NI28IMW3 had detections below the LOQ for aluminum, antimony, barium, beryllium, cadmium, chromium, cobalt, copper, lead, magnesium, manganese, sodium, thallium, vanadium. Sample -004 results were qualified with U/L flags/reason codes for aluminum, antimony, beryllium, cadmium, cobalt, lead (zinc qualifiers removed). Sample -008 was qualified U/L for aluminum, barium, beryllium chromium, copper, lead, magnesium, sodium (flags removed for nickel and potassium). Sample -006 was qualified U/L for aluminum, antimony, beryllium, cadmium, cobalt, copper, lead (flag removed for zinc). Sample -005 was qualified U/L for antimony, beryllium, cadmium, cobalt, chromium, copper, thallium, vanadium (flag removed for lead). Sample -007 was qualified U/L for aluminum, barium, chromium copper, magnesium, manganese. QC batch NI25IMW1 had detections below the LOQ for aluminum, antimony, calcium, copper, iron, magnesium. Sample -001 was qualified with U/L flags/reason codes for antimony and copper. QC batch NI05IMW3 had a detection below the LOQ for iron. Samples in this batch were not reported as final results so qualification was not required based on this method blank detection.
Were target analytes in the field blank less than MDL?		•		Equipment blank and filter blank had multiple detections. All associated field blank detections have already been qualified as required based on method blank detections.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			

Automated Data Review Detail Report for SN8027
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Review Questions

Method: SW6020

Review Questions	Yes	No	NA	Comment
Were MS/MSD recoveries within project acceptance limits?		•		Sample -001 MS/MSD recoveries were biased low for selenium. This sample result was qualified with UJ/M flags/reason codes. Calcium and sodlium recoveries were not used based on 4x rule. Sample -002 MS and/or MSD recoveries were biased high for lead and thallium so these results were qualified J/M flags/reason codes. Calcium and Sodium recoveries were not used to qualify results based on 4X rule (flags for iron and magnesium removed). SAMPLE -003 MS recoveries for calcium, sodium, iron were not used to qualify results based on 4X rule criteria. SAMPLE -004 MS recoveries for calcium, iron, magnesium, sodium were not used to qualify results based on 4X rule criteria (flags removed for manganese and potassium).
Was the MS/MSD RPD within project acceptance limits?		•		See QC outlier table for details.
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?		•		Sample -003 (parent) and -005 (field duplicate) results were qualified estimated with J/D3 flags/reason codes for aluminum.
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Automated Data Review Detail Report for SN8027
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Review Questions

Method: SW7196

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			equipment blank
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -001 low bias for one MS pair so results qualified with J/M flag/reason code. Sample -003 MS/MSD both low bias with results of no recovery so sample result qualified as unusable with X/M flag/reason code.
Was the MS/MSD RPD within project acceptance limits?	•			
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?	•			Sample -003 results rejected due to MS no recovery,

Automated Data Review Detail Report for SN8027
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Review Questions

Method: SW7470

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch NI08HGW2 detection below LOQ. Sample -002 qualified U/L flag/reason code. QC batch NI30HGW3 - No qualifications required based on this method blank detection.
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Automated Data Review Detail Report for SN8027
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Review Questions

Method: SW8260

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		One of 4 surrogates biased high for samples -001, -003, -005, -005RA, -007, -010. Detections qualified with J/I flags/reason codes for these samples.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			trip blanks were non-detect
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -003 MS/MSD recoveries biased high for chloroethane. Qualifications not required. Sample -001 MS/MSD recoveries biased high for chloroethane and MS or MSD recovery but not both biased high for p&m-xylenes and MS/MSD RPD outlier only for bromomethane. Client sample -001 bromomethane results qualified with D reason code and p&m-xylenes result qualified J/M flag/reason code.
Was the MS/MSD RPD within project acceptance limits?		•		Sample -001 and -003 MS/MSD RPD outlier only for bromomethane so both qualified with D reason codes.
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Automated Data Review Detail Report for SN8027
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Review Questions

Method: SW8270

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Surrogate recovery outliers (low bias) associated with QC samples only.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch WG287051-2 had multiple recovery outliers with several resulting in R flags for field data (samples -001, -003, -005, -007). See QC summary table for details on recovery outliers and flagged samples (C reason codes). NOTE: batch was re-extracted out of hold time (12 days) with benzaldehyde recovery outlier biased high only.
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -001 MS/MSD recoveries had 19 analytes outside of criteria biased low and sample -003 had only caprolactam biased low. All associated sample results were qualified J or UJ/M flags/reason codes.
Was the MS/MSD RPD within project acceptance limits?		•		Most of the MS/MSD recovery outlier analytes also had RPD results outside of criteria so were flagged accordingly.
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Calibration outliers as noted in SDG case narrative were not addressed as part of this stage 2A review.
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?	•			See rejection summary for details.

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Round Groundwater
SDG:	Sampling SN8059
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Katahdin Analytical Services, Westbrook, ME
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	January 27, 2021 - Resubmitted February 11, 2021 after revisions based on secondary review.

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	A2340B	BNASIM	SW6020	SW6020 - Dissolved	SW7196	SW7470	SW7470 - Dissolved	SW8260	SW8270
NHFLA-DUP12-SEP2020	SN8059-11	Water	Field Duplicate/FD	X	X	X		X	X		X	X
NHFLA-DUP12-SEP2020	SN8059-12	Water	Field Duplicate/FD				X			X		
NHFLA-EB20-SEP2020	SN8059-17	Water	Equipment Blank/EB	X	X	X		X	X		X	X
NHFLA-EB20-SEP2020	SN8059-18	Water	Equipment Blank/EB				X			X		
NHFLA-MW10-SEP2020	SN8059-15	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW10-SEP2020	SN8059-16	Water	Field Sample/N				X			X		
NHFLA-MW12-SEP2020	SN8059-5	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW12-SEP2020	SN8059-6	Water	Field Sample/N				X			X		
NHFLA-MW13-SEP2020	SN8059-10	Water	Field Sample/N				X			X		
NHFLA-MW13-SEP2020	SN8059-9	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW14-SEP2020	SN8059-13	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW14-SEP2020	SN8059-14	Water	Field Sample/N				X			X		
NHFLA-MW16-SEP2020	SN8059-1	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW16-SEP2020	SN8059-2	Water	Field Sample/N				X			X		
NHFLA-MW3-SEP2020	SN8059-3	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW3-SEP2020	SN8059-4	Water	Field Sample/N				X			X		
NHFLA-MW6-SEP2020	SN8059-7	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW6-SEP2020	SN8059-8	Water	Field Sample/N				X			X		
NHFLA-TB24-SEP2020	SN8059-19	Water	Trip Blank/TB								X	
NHFLA-TB25-SEP2020	SN8059-20	Water	Trip Blank/TB								X	

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Katahdin Analytical Services, Westbrook, ME and were reported under sample delivery group (SDG) SN8059. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Extracted Internal Standard
- Field Duplicate RPD
- Lab Blank
- LCS Recovery
- MS Recovery
- MS RPD
- Prep Hold Time
- Surrogate
- Test Hold Time
- Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 150 results (9.35%) out of the 1605 results (sample and field QC samples) reported are qualified based on review and 0 results (0.00%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

NOTE: VOC hold time (H1) qualifiers are being applied by FUDSCHEM if analysis is being done on 14th day of a 14 day holding time. We recommend that these qualifiers be removed from the database.

Analytical Method	Data Reviewer Comment
A2340B	No additional comments; see Checklist for detail.
BNASIM	No additional comments; see Checklist for detail.
SW6020	No additional comments; see Checklist for detail.
SW7196	No additional comments; see Checklist for detail.
SW7470	No additional comments; see Checklist for detail.
SW8260	NOTE: VOC hold time (H1) qualifiers are being applied by FUDSCHEM if analysis is being done on 14th day of a 14 day holding time. We recommend that these qualifiers be removed from the database.
SW8270	No additional comments; see Checklist for detail.

Jim Tomalia

February 11, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method SW6020, Dissolved, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB20-SEP2020 (EB)/ SN8059-18	Barium	0.3400	< 0.27	< 2	ug/l	U/None	V	
NHFLA-EB20-SEP2020 (EB)/ SN8059-18	Manganese	0.5900	< 0.35	< 2	ug/l	U/None	V	
NHFLA-EB20-SEP2020 (EB)/ SN8059-18	Sodium	120.0	< 19	< 1000	ug/l	U/None	V	
NHFLA-EB20-SEP2020 (EB)/ SN8059-18	Magnesium	13.00	< 8	< 100	ug/l	U/None	V	
NHFLA-EB20-SEP2020 (EB)/ SN8059-18	Calcium	32.00	< 21	< 100	ug/l	U/None	V	
NHFLA-EB20-SEP2020 (EB)/ SN8059-18	Iron	40.00	< 13	< 100	ug/l	U/None	V	
NHFLA-EB20-SEP2020 (EB)/ SN8059-18	Aluminum	9.100	< 4.4	< 100	ug/l	U/None	V	
NHFLA-EB20-SEP2020 (EB)/ SN8059-18	Copper	2.280	< 0.19	< 3	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW6020, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP12-SEP2020	FD	Aluminum	100	12.0 J	40.0 U		ug/l	V
NHFLA-DUP12-SEP2020	FD	Copper	3.00	2.34 J	3.00 U		ug/l	V
NHFLA-MW10-SEP2020	N	Aluminum	100	9.80 J	40.0 U		ug/l	V
NHFLA-MW10-SEP2020	N	Copper	3.00	2.10 J	3.00 U		ug/l	V
NHFLA-MW12-SEP2020	N	Copper	3.00	4.54	4.54 J	+	ug/l	V
NHFLA-MW12-SEP2020	N	Iron	100	78.0 J	100 U		ug/l	V
NHFLA-MW13-SEP2020	N	Aluminum	100	16.0 J	40.0 U		ug/l	V
NHFLA-MW13-SEP2020	N	Copper	3.00	2.94 J	3.00 U		ug/l	V
NHFLA-MW14-SEP2020	N	Aluminum	100	19.0 J	40.0 U		ug/l	V
NHFLA-MW14-SEP2020	N	Copper	3.00	2.47 J	3.00 U		ug/l	V
NHFLA-MW16-SEP2020	N	Aluminum	100	15.0 J	40.0 U		ug/l	V
NHFLA-MW16-SEP2020	N	Copper	3.00	4.88	4.88 J	+	ug/l	V
NHFLA-MW3-SEP2020	N	Aluminum	100	20.0 J	40.0 U		ug/l	V
NHFLA-MW3-SEP2020	N	Copper	3.00	2.16 J	3.00 U		ug/l	V
NHFLA-MW6-SEP2020	N	Aluminum	100	12.0 J	40.0 U		ug/l	V
NHFLA-MW6-SEP2020	N	Copper	3.00	1.40 J	2.00 U		ug/l	V

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB20-SEP2020 (EB)/ SN8059-17	Manganese	0.5900	< 0.35	< 2	ug/l	U/None	V	
NHFLA-EB20-SEP2020 (EB)/ SN8059-17	Magnesium	18.00	< 8	< 100	ug/l	U/None	V	
NHFLA-EB20-SEP2020 (EB)/ SN8059-17	Sodium	229.0	< 19	< 1000	ug/l	U/None	V	
NHFLA-EB20-SEP2020 (EB)/ SN8059-17	Calcium	41.00	< 21	< 100	ug/l	U/None	V	
NHFLA-EB20-SEP2020 (EB)/ SN8059-17	Aluminum	8.000	< 4.4	< 100	ug/l	U/None	V	
NHFLA-EB20-SEP2020 (EB)/ SN8059-17	Copper	1.800	< 0.19	< 3	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP12-SEP2020	FD	Aluminum	100	12.0 J	40.0 U		ug/l	V
NHFLA-DUP12-SEP2020	FD	Copper	3.00	2.34 J	3.00 U		ug/l	V
NHFLA-MW10-SEP2020	N	Aluminum	100	9.80 J	40.0 U		ug/l	V
NHFLA-MW10-SEP2020	N	Copper	3.00	2.10 J	3.00 U		ug/l	V
NHFLA-MW12-SEP2020	N	Copper	3.00	4.54	4.54 J	+	ug/l	V
NHFLA-MW13-SEP2020	N	Aluminum	100	16.0 J	40.0 U		ug/l	V
NHFLA-MW13-SEP2020	N	Copper	3.00	2.94 J	3.00 U		ug/l	V
NHFLA-MW14-SEP2020	N	Aluminum	100	19.0 J	40.0 U		ug/l	V
NHFLA-MW14-SEP2020	N	Copper	3.00	2.47 J	3.00 U		ug/l	V
NHFLA-MW16-SEP2020	N	Aluminum	100	15.0 J	40.0 U		ug/l	V
NHFLA-MW16-SEP2020	N	Copper	3.00	4.88	4.88 J	+	ug/l	V
NHFLA-MW3-SEP2020	N	Aluminum	100	20.0 J	40.0 U		ug/l	V
NHFLA-MW3-SEP2020	N	Copper	3.00	2.16 J	3.00 U		ug/l	V
NHFLA-MW6-SEP2020	N	Aluminum	100	12.0 J	40.0 U		ug/l	V
NHFLA-MW6-SEP2020	N	Copper	3.00	1.40 J	2.00 U		ug/l	V

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNI29IMW1 (LB)/ PBWNI29IMW1	Copper	0.2100	< 0.18	< 3	ug/l	U/None	L	
PBWNI29IMW1 (LB)/ PBWNI29IMW1	Lead	0.2700	< 0.074	< 1	ug/l	U/None	L	
PBWNI29IMW1 (LB)/ PBWNI29IMW1	Manganese	0.6800	< 0.35	< 2	ug/l	U/None	L	
PBWNI29IMW1 (LB)/ PBWNI29IMW1	Beryllium	0.06500	< 0.034	< 1	ug/l	U/None	L	
PBWNI29IMW1 (LB)/ PBWNI29IMW1	Antimony	0.1400	< 0.054	< 1	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP12-SEP2020	FD	Antimony	1.00	0.450 J	0.500 U		ug/l	L
NHFLA-DUP12-SEP2020	FD	Beryllium	1.00	0.0450 J	0.200 U		ug/l	L
NHFLA-DUP12-SEP2020	FD	Lead	1.00	0.410 J	0.500 U		ug/l	L
NHFLA-EB20-SEP2020	EB	Copper	3.00	1.80 J	2.00 U		ug/l	L
NHFLA-EB20-SEP2020	EB	Manganese	2.00	0.590 J	1.00 U		ug/l	L
NHFLA-MW10-SEP2020	N	Antimony	1.00	0.190 J	0.500 U		ug/l	L
NHFLA-MW10-SEP2020	N	Copper	3.00	2.06 J	3.00 U		ug/l	V/L
NHFLA-MW10-SEP2020	N	Lead	1.00	0.200 J	0.500 U		ug/l	L
NHFLA-MW12-SEP2020	N	Antimony	1.00	0.638 J	1.00 U		ug/l	L
NHFLA-MW12-SEP2020	N	Beryllium	1.00	0.220 J	1.00 U		ug/l	L
NHFLA-MW13-SEP2020	N	Antimony	1.00	0.100 J	0.500 U		ug/l	L
NHFLA-MW13-SEP2020	N	Beryllium	1.00	0.0560 J	0.200 U		ug/l	L
NHFLA-MW13-SEP2020	N	Lead	1.00	0.450 J	0.500 U		ug/l	L
NHFLA-MW14-SEP2020	N	Antimony	1.00	0.430 J	0.500 U		ug/l	L
NHFLA-MW14-SEP2020	N	Beryllium	1.00	0.0550 J	0.200 U		ug/l	L
NHFLA-MW14-SEP2020	N	Lead	1.00	0.420 J	0.500 U		ug/l	L
NHFLA-MW16-SEP2020	N	Antimony	1.00	0.390 J	0.500 U		ug/l	L
NHFLA-MW16-SEP2020	N	Lead	1.00	0.690 J	1.00 U		ug/l	L
NHFLA-MW3-SEP2020	N	Antimony	1.00	0.190 J	0.500 U		ug/l	L
NHFLA-MW3-SEP2020	N	Beryllium	1.00	0.240 J	1.00 U		ug/l	L
NHFLA-MW3-SEP2020	N	Lead	1.00	0.600 J	1.00 U		ug/l	L
NHFLA-MW6-SEP2020	N	Antimony	1.00	0.250 J	0.500 U		ug/l	L
NHFLA-MW6-SEP2020	N	Beryllium	1.00	0.160 J	0.200 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG287088-1 (LB)/ WG287088-1	Chromium, Hexavalent	0.004400	< 0.00076	< 0.025	mg/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP12-SEP2020	FD	Chromium, Hexavalent	0.0250	0.00610 J	0.0125 U		mg/l	L
NHFLA-MW10-SEP2020	N	Chromium, Hexavalent	0.0250	0.00460 J	0.0125 U		mg/l	L
NHFLA-MW13-SEP2020	N	Chromium, Hexavalent	0.0250	0.00390 J	0.0125 U		mg/l	L
NHFLA-MW14-SEP2020	N	Chromium, Hexavalent	0.0250	0.00340 J	0.0125 U		mg/l	L
NHFLA-MW16-SEP2020	N	Chromium, Hexavalent	0.0250	0.00310 J	0.0125 UJ		mg/l	L/M
NHFLA-MW6-SEP2020	N	Chromium, Hexavalent	0.0250	0.00600 J	0.0125 U		mg/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW16-SEP2020 (MS)/ WG287088-3	Chromium, Hexavalent	79.38	90 - 111	30 - 125	percent	J/UJ	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW16-SEP2020	N	Chromium, Hexavalent	0.0250	0.00310 J	0.0125 UJ		mg/l	L/M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7470, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB20-SEP2020 (EB)/ SN8059-17	Mercury	0.01300	< 0.013	< 0.2	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW7470

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP12-SEP2020	FD	Mercury	0.200	0.0530 J	0.100 U		ug/l	V
NHFLA-MW10-SEP2020	N	Mercury	0.200	0.0130 J	0.100 U		ug/l	V
NHFLA-MW12-SEP2020	N	Mercury	0.200	0.0270 J	0.100 U		ug/l	V
NHFLA-MW13-SEP2020	N	Mercury	0.200	0.0420 J	0.100 U		ug/l	V
NHFLA-MW16-SEP2020	N	Mercury	0.200	0.0550 J	0.100 U		ug/l	V
NHFLA-MW3-SEP2020	N	Mercury	0.200	0.0460 J	0.100 U		ug/l	V
NHFLA-MW6-SEP2020	N	Mercury	0.200	0.0590 J	0.100 U		ug/l	V

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7470, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNI30HGW3 (LB)/ PBWNI30HGW3	Mercury	0.05400	< 0.013	< 0.2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW7470

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP12-SEP2020	FD	Mercury	0.200	0.0510 J	0.100 U		ug/l	V/L
NHFLA-MW12-SEP2020	N	Mercury	0.200	0.0530 J	0.100 U		ug/l	V/L
NHFLA-MW13-SEP2020	N	Mercury	0.200	0.0510 J	0.100 U		ug/l	V/L
NHFLA-MW16-SEP2020	N	Mercury	0.200	0.0410 J	0.100 U		ug/l	V/L
NHFLA-MW3-SEP2020	N	Mercury	0.200	0.0640 J	0.100 U		ug/l	V/L
NHFLA-MW6-SEP2020	N	Mercury	0.200	0.0280 J	0.100 U		ug/l	V/L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB20-SEP2020 (EB)/ SN8059-17	Carbon disulfide	0.2600	< 0.25	< 1	ug/l	U/None	V	
NHFLA-EB20-SEP2020 (EB)/ SN8059-17	Benzene	0.3000	< 0.26	< 1	ug/l	U/None	V	
NHFLA-EB20-SEP2020 (EB)/ SN8059-17	Toluene	1.000	< 0.27	< 1	ug/l	U/None	V	
NHFLA-EB20-SEP2020 (EB)/ SN8059-17	Acetone	3.000	< 2.2	< 5	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP12-SEP2020	FD	Acetone	5.00	3.80 J	5.00 UJ		ug/l	V
NHFLA-DUP12-SEP2020	FD	Toluene	1.00	0.390 J	0.500 UJ		ug/l	V
NHFLA-MW12-SEP2020	N	Acetone	5.00	2.90 J	5.00 U		ug/l	V
NHFLA-MW12-SEP2020	N	Carbon disulfide	1.00	0.350 J	0.500 U		ug/l	V/L/T
NHFLA-MW13-SEP2020	N	Acetone	5.00	3.00 J	5.00 U		ug/l	V
NHFLA-MW14-SEP2020	N	Acetone	5.00	4.30 J	5.00 U		ug/l	V
NHFLA-MW14-SEP2020	N	Toluene	1.00	0.410 J	0.500 U		ug/l	V
NHFLA-MW16-SEP2020	N	Acetone	5.00	11.0	11.0 J		ug/l	V
NHFLA-MW6-SEP2020	N	Acetone	5.00	4.90 J	5.00 U		ug/l	V
NHFLA-MW6-SEP2020	N	Benzene	1.00	0.300 J	0.500 U		ug/l	V
NHFLA-MW6-SEP2020	N	Carbon disulfide	1.00	0.260 J	0.500 U		ug/l	V/L/T
NHFLA-MW6-SEP2020	N	Toluene	1.00	0.280 J	0.500 U		ug/l	V

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG287832-10 (LB)/ WG287832-10	Carbon disulfide	0.3400	< 0.25	< 1	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB20-SEP2020	EB	Carbon disulfide	1.00	0.260 J	0.500 UJ		ug/l	L
NHFLA-MW12-SEP2020	N	Carbon disulfide	1.00	0.350 J	0.500 U		ug/l	V/L/T
NHFLA-MW6-SEP2020	N	Carbon disulfide	1.00	0.260 J	0.500 U		ug/l	V/L/T
NHFLA-TB25-SEP2020	TB	Carbon disulfide	1.00	0.280 J	0.500 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-TB24-SEP2020 (TB)/ SN8059-19	1,2-Dichloroethane-d4	127.0	81 - 118	10 - 118	percent	J/None	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-DUP12-SEP2020 (FD)/ SN8059-11		14.26	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL
NHFLA-EB20-SEP2020 (EB)/ SN8059-17		14.08	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL
NHFLA-MW10-SEP2020 (N)/ SN8059-15		14.19	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL
NHFLA-MW12-SEP2020 (N)/ SN8059-5		14.19	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL
NHFLA-MW13-SEP2020 (N)/ SN8059-9		14.18	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL
NHFLA-MW14-SEP2020 (N)/ SN8059-13		14.18	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL
NHFLA-MW16-SEP2020 (N)/ SN8059-1		14.37	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL
NHFLA-MW3-SEP2020 (N)/ SN8059-3		14.22	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL
NHFLA-MW6-SEP2020 (N)/ SN8059-7		14.16	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Trip Blank

The purpose of trip blanks is to determine the existence and magnitude of cross-contamination problems resulting from the shipping of samples. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in trip blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-TB25-SEP2020 (TB)/ SN8059-20	Carbon disulfide	0.2800	< 0.25	< 1	ug/l	U/None	T	
NHFLA-TB25-SEP2020 (TB)/ SN8059-20	Methylene chloride	1.200	< 1.1	< 5	ug/l	U/None	T	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Trip Blank for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW12-SEP2020	N	Carbon disulfide	1.00	0.350 J	0.500 U		ug/l	V/L/T
NHFLA-MW6-SEP2020	N	Carbon disulfide	1.00	0.260 J	0.500 U		ug/l	V/L/T

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB20-SEP2020 (EB)/ SN8059-17	Caprolactam	0.9900	< 0.37	< 9.3	ug/l	U/None	V	
NHFLA-EB20-SEP2020 (EB)/ SN8059-17	Diethyl phthalate	5.900	< 1.9	< 9.3	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG287179-2RA (BS)/ WG287179-2RA	Benzaldehyde	1458	10 - 189	10 - 189	percent	J/None	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW6-SEP2020 (N)/ SN8059-7	Terphenyl-d14	41.60	50 - 134	10 - 134	percent	J/UJ	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW6-SEP2020	N	1,2,4,5-Tetrachlorobenzene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	1,4-Dioxane (p-Dioxane)	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	2,2'-Oxybis(1-chloropropane)	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	2,4-Dinitrotoluene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	2,6-Dinitrotoluene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	2-Chloronaphthalene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	2-Nitroaniline	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	3,3'-Dichlorobenzidine	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	3-Nitroaniline	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	4-Bromophenyl phenyl ether	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	4-Chloroaniline	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	4-Chlorophenyl phenyl ether	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	4-Nitroaniline	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Acetophenone	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Atrazine	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Benzaldehyde	9.50	7.10 UL	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Benzyl butyl phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Biphenyl (Diphenyl)	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Bis(2-chloroethoxy)methane	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Bis(2-ethylhexyl)phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Caprolactam	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Carbazole	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Dibenzofuran	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Diethyl phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Dimethyl phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Di-n-butyl phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	di-n-Octyl phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Hexachlorobenzene	9.50	7.10 U	7.10 UJ		ug/l	I

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW6-SEP2020	N	Hexachlorobutadiene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Hexachlorocyclopentadiene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Hexachloroethane	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Isophorone	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Nitrobenzene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	N-Nitrosodi-n-propylamine	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	N-Nitrosodiphenylamine	9.50	7.10 U	7.10 UJ		ug/l	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Table of All Qualified Results

Test Method: SW6020 Extraction Method: Dissolved								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP12-SEP2020	FD	Aluminum	100	12.0 J	40.0 U		ug/l	V
NHFLA-DUP12-SEP2020	FD	Copper	3.00	2.34 J	3.00 U		ug/l	V
NHFLA-MW10-SEP2020	N	Aluminum	100	9.80 J	40.0 U		ug/l	V
NHFLA-MW10-SEP2020	N	Copper	3.00	2.10 J	3.00 U		ug/l	V
NHFLA-MW12-SEP2020	N	Copper	3.00	4.54	4.54 J	+	ug/l	V
NHFLA-MW12-SEP2020	N	Iron	100	78.0 J	100 U		ug/l	V
NHFLA-MW13-SEP2020	N	Aluminum	100	16.0 J	40.0 U		ug/l	V
NHFLA-MW13-SEP2020	N	Copper	3.00	2.94 J	3.00 U		ug/l	V
NHFLA-MW14-SEP2020	N	Aluminum	100	19.0 J	40.0 U		ug/l	V
NHFLA-MW14-SEP2020	N	Copper	3.00	2.47 J	3.00 U		ug/l	V
NHFLA-MW16-SEP2020	N	Aluminum	100	15.0 J	40.0 U		ug/l	V
NHFLA-MW16-SEP2020	N	Copper	3.00	4.88	4.88 J	+	ug/l	V
NHFLA-MW3-SEP2020	N	Aluminum	100	20.0 J	40.0 U		ug/l	V
NHFLA-MW3-SEP2020	N	Copper	3.00	2.16 J	3.00 U		ug/l	V
NHFLA-MW6-SEP2020	N	Aluminum	100	12.0 J	40.0 U		ug/l	V
NHFLA-MW6-SEP2020	N	Copper	3.00	1.40 J	2.00 U		ug/l	V

Test Method: SW6020 Extraction Method: SW3010								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP12-SEP2020	FD	Antimony	1.00	0.450 J	0.500 U		ug/l	L
NHFLA-DUP12-SEP2020	FD	Beryllium	1.00	0.0450 J	0.200 U		ug/l	L
NHFLA-DUP12-SEP2020	FD	Lead	1.00	0.410 J	0.500 U		ug/l	L
NHFLA-DUP12-SEP2020	FD	Copper	3.00	3.32	3.32 J	+	ug/l	V
NHFLA-EB20-SEP2020	EB	Copper	3.00	1.80 J	2.00 U		ug/l	L
NHFLA-EB20-SEP2020	EB	Manganese	2.00	0.590 J	1.00 U		ug/l	L
NHFLA-MW10-SEP2020	N	Antimony	1.00	0.190 J	0.500 U		ug/l	L
NHFLA-MW10-SEP2020	N	Lead	1.00	0.200 J	0.500 U		ug/l	L
NHFLA-MW10-SEP2020	N	Copper	3.00	2.06 J	3.00 U		ug/l	V/L
NHFLA-MW12-SEP2020	N	Antimony	1.00	0.638 J	1.00 U		ug/l	L
NHFLA-MW12-SEP2020	N	Beryllium	1.00	0.220 J	1.00 U		ug/l	L
NHFLA-MW13-SEP2020	N	Antimony	1.00	0.100 J	0.500 U		ug/l	L
NHFLA-MW13-SEP2020	N	Beryllium	1.00	0.0560 J	0.200 U		ug/l	L
NHFLA-MW13-SEP2020	N	Lead	1.00	0.450 J	0.500 U		ug/l	L
NHFLA-MW13-SEP2020	N	Copper	3.00	3.80	3.80 J	+	ug/l	V
NHFLA-MW14-SEP2020	N	Antimony	1.00	0.430 J	0.500 U		ug/l	L
NHFLA-MW14-SEP2020	N	Beryllium	1.00	0.0550 J	0.200 U		ug/l	L
NHFLA-MW14-SEP2020	N	Lead	1.00	0.420 J	0.500 U		ug/l	L
NHFLA-MW14-SEP2020	N	Copper	3.00	3.25	3.25 J	+	ug/l	V
NHFLA-MW16-SEP2020	N	Antimony	1.00	0.390 J	0.500 U		ug/l	L
NHFLA-MW16-SEP2020	N	Lead	1.00	0.690 J	1.00 U		ug/l	L
NHFLA-MW16-SEP2020	N	Copper	3.00	5.60	5.60 J	+	ug/l	V

Table of All Qualified Results

Test Method: SW6020	Extraction Method: SW3010							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW3-SEP2020	N	Antimony	1.00	0.190 J	0.500 U		ug/l	L
NHFLA-MW3-SEP2020	N	Beryllium	1.00	0.240 J	1.00 U		ug/l	L
NHFLA-MW3-SEP2020	N	Lead	1.00	0.600 J	1.00 U		ug/l	L
NHFLA-MW3-SEP2020	N	Copper	3.00	3.11	3.11 J	+	ug/l	V
NHFLA-MW6-SEP2020	N	Antimony	1.00	0.250 J	0.500 U		ug/l	L
NHFLA-MW6-SEP2020	N	Beryllium	1.00	0.160 J	0.200 U		ug/l	L
NHFLA-MW6-SEP2020	N	Copper	3.00	4.26	4.26 J	+	ug/l	V

Test Method: SW7196	Extraction Method: NONE							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP12-SEP2020	FD	Chromium, Hexavalent	0.0250	0.00610 J	0.0125 U		mg/l	L
NHFLA-MW10-SEP2020	N	Chromium, Hexavalent	0.0250	0.00460 J	0.0125 U		mg/l	L
NHFLA-MW13-SEP2020	N	Chromium, Hexavalent	0.0250	0.00390 J	0.0125 U		mg/l	L
NHFLA-MW14-SEP2020	N	Chromium, Hexavalent	0.0250	0.00340 J	0.0125 U		mg/l	L
NHFLA-MW16-SEP2020	N	Chromium, Hexavalent	0.0250	0.00310 J	0.0125 UJ		mg/l	L/M
NHFLA-MW6-SEP2020	N	Chromium, Hexavalent	0.0250	0.00600 J	0.0125 U		mg/l	L

Test Method: SW7470	Extraction Method: METHOD							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP12-SEP2020	FD	Mercury	0.200	0.0530 J	0.100 U		ug/l	V
NHFLA-MW12-SEP2020	N	Mercury	0.200	0.0270 J	0.100 U		ug/l	V
NHFLA-MW13-SEP2020	N	Mercury	0.200	0.0420 J	0.100 U		ug/l	V
NHFLA-MW16-SEP2020	N	Mercury	0.200	0.0550 J	0.100 U		ug/l	V
NHFLA-MW3-SEP2020	N	Mercury	0.200	0.0460 J	0.100 U		ug/l	V
NHFLA-MW6-SEP2020	N	Mercury	0.200	0.0590 J	0.100 U		ug/l	V

Test Method: SW7470	Extraction Method: METHOD							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP12-SEP2020	FD	Mercury	0.200	0.0510 J	0.100 U		ug/l	V/L
NHFLA-MW10-SEP2020	N	Mercury	0.200	0.0130 J	0.100 U		ug/l	V
NHFLA-MW12-SEP2020	N	Mercury	0.200	0.0530 J	0.100 U		ug/l	V/L
NHFLA-MW13-SEP2020	N	Mercury	0.200	0.0510 J	0.100 U		ug/l	V/L
NHFLA-MW16-SEP2020	N	Mercury	0.200	0.0410 J	0.100 U		ug/l	V/L
NHFLA-MW3-SEP2020	N	Mercury	0.200	0.0640 J	0.100 U		ug/l	V/L
NHFLA-MW6-SEP2020	N	Mercury	0.200	0.0280 J	0.100 U		ug/l	V/L

Test Method: SW8260	Extraction Method: SW5030							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP12-SEP2020	FD	Acetone	5.00	3.80 J	5.00 UJ		ug/l	V
NHFLA-DUP12-SEP2020	FD	Toluene	1.00	0.390 J	0.500 UJ		ug/l	V
NHFLA-EB20-SEP2020	EB	Carbon disulfide	1.00	0.260 J	0.500 UJ		ug/l	L
NHFLA-MW12-SEP2020	N	Acetone	5.00	2.90 J	5.00 U		ug/l	V
NHFLA-MW12-SEP2020	N	Carbon disulfide	1.00	0.350 J	0.500 U		ug/l	V/L/T
NHFLA-MW13-SEP2020	N	Acetone	5.00	3.00 J	5.00 U		ug/l	V

Table of All Qualified Results

Test Method: SW8260	Extraction Method: SW5030							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW14-SEP2020	N	Acetone	5.00	4.30 J	5.00 U		ug/l	V
NHFLA-MW14-SEP2020	N	Toluene	1.00	0.410 J	0.500 U		ug/l	V
NHFLA-MW16-SEP2020	N	Acetone	5.00	11.0	11.0 J		ug/l	V
NHFLA-MW6-SEP2020	N	Acetone	5.00	4.90 J	5.00 U		ug/l	V
NHFLA-MW6-SEP2020	N	Benzene	1.00	0.300 J	0.500 U		ug/l	V
NHFLA-MW6-SEP2020	N	Carbon disulfide	1.00	0.260 J	0.500 U		ug/l	V/L/T
NHFLA-MW6-SEP2020	N	Toluene	1.00	0.280 J	0.500 U		ug/l	V
NHFLA-TB25-SEP2020	TB	Carbon disulfide	1.00	0.280 J	0.500 U		ug/l	L

Test Method: SW8270	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW6-SEP2020	N	1,2,4,5-Tetrachlorobenzene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	1,4-Dioxane (p-Dioxane)	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	2,2'-Oxybis(1-chloropropane)	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	2,4-Dinitrotoluene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	2,6-Dinitrotoluene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	2-Chloronaphthalene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	2-Nitroaniline	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	3,3'-Dichlorobenzidine	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	3-Nitroaniline	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	4-Bromophenyl phenyl ether	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	4-Chloroaniline	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	4-Chlorophenyl phenyl ether	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	4-Nitroaniline	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Acetophenone	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Atrazine	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Benzaldehyde	9.50	7.10 UL	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Benzyl butyl phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Biphenyl (Diphenyl)	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Bis(2-chloroethoxy)methane	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Bis(2-ethylhexyl)phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Caprolactam	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Carbazole	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Dibenzofuran	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Diethyl phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Dimethyl phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Di-n-butyl phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	di-n-Octyl phthalate	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Hexachlorobenzene	9.50	7.10 U	7.10 UJ		ug/l	I

Table of All Qualified Results

Test Method: SW8270	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW6-SEP2020	N	Hexachlorobutadiene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Hexachlorocyclopentadiene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Hexachloroethane	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Isophorone	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	Nitrobenzene	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	N-Nitrosodi-n-propylamine	9.50	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW6-SEP2020	N	N-Nitrosodiphenylamine	9.50	7.10 U	7.10 UJ		ug/l	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW6020, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP12-SEP2020	FD	Antimony	1.00	0.460 J	0.460 J	0.500 U	L
NHFLA-DUP12-SEP2020	FD	Chromium	5.00	0.400 J	0.400 J	4.00 U	V
NHFLA-DUP12-SEP2020	FD	Lead	1.00	0.120 J	0.120 J	0.500 U	V
NHFLA-DUP12-SEP2020	FD	Nickel	2.00	1.71 J	1.71 J	2.00 U	V
NHFLA-DUP12-SEP2020	FD	Zinc	10.0	9.30 J	9.30 J	10.0 U	V
NHFLA-MW10-SEP2020	N	Antimony	1.00	0.160 J	0.160 J	0.500 U	L
NHFLA-MW10-SEP2020	N	Chromium	5.00	0.300 J	0.300 J	4.00 U	V
NHFLA-MW10-SEP2020	N	Lead	1.00	0.120 J	0.120 J	0.500 U	V
NHFLA-MW10-SEP2020	N	Nickel	2.00	1.10 J	1.10 J	1.20 U	V
NHFLA-MW10-SEP2020	N	Zinc	10.0	4.90 J	4.90 J	8.00 U	V
NHFLA-MW12-SEP2020	N	Antimony	1.00	0.460 J	0.460 J	0.500 U	L
NHFLA-MW12-SEP2020	N	Chromium	5.00	0.540 J	0.540 J	4.00 U	V
NHFLA-MW12-SEP2020	N	Lead	1.00	0.250 J	0.250 J	0.500 U	V
NHFLA-MW12-SEP2020	N	Zinc	10.0	12.0	12.0	12.0 J	V
NHFLA-MW13-SEP2020	N	Antimony	1.00	0.0580 J	0.0580 J	0.500 U	L
NHFLA-MW13-SEP2020	N	Chromium	5.00	0.300 J	0.300 J	4.00 U	V
NHFLA-MW13-SEP2020	N	Lead	1.00	0.290 J	0.290 J	0.500 U	V
NHFLA-MW13-SEP2020	N	Nickel	2.00	0.390 J	0.390 J	1.20 U	V
NHFLA-MW13-SEP2020	N	Zinc	10.0	15.0	15.0	15.0 J	V
NHFLA-MW14-SEP2020	N	Antimony	1.00	0.410 J	0.410 J	0.500 U	L
NHFLA-MW14-SEP2020	N	Chromium	5.00	0.320 J	0.320 J	4.00 U	V
NHFLA-MW14-SEP2020	N	Lead	1.00	0.140 J	0.140 J	0.500 U	V
NHFLA-MW14-SEP2020	N	Nickel	2.00	1.84 J	1.84 J	2.00 U	V
NHFLA-MW16-SEP2020	N	Antimony	1.00	0.290 J	0.290 J	0.500 U	L
NHFLA-MW16-SEP2020	N	Chromium	5.00	0.700 J	0.700 J	4.00 U	V
NHFLA-MW16-SEP2020	N	Lead	1.00	0.300 J	0.300 J	0.500 U	V
NHFLA-MW16-SEP2020	N	Zinc	10.0	9.40 J	9.40 J	10.0 U	V
NHFLA-MW3-SEP2020	N	Antimony	1.00	0.140 J	0.140 J	0.500 U	L
NHFLA-MW3-SEP2020	N	Beryllium	1.00	0.210 J	0.210 J	1.00 U	L
NHFLA-MW3-SEP2020	N	Chromium	5.00	0.250 J	0.250 J	4.00 U	V
NHFLA-MW3-SEP2020	N	Lead	1.00	0.250 J	0.250 J	0.500 U	V
NHFLA-MW3-SEP2020	N	Zinc	10.0	10.0	10.0	10.0 J	V
NHFLA-MW6-SEP2020	N	Antimony	1.00	0.120 J	0.120 J	0.500 U	L
NHFLA-MW6-SEP2020	N	Beryllium	1.00	0.0450 J	0.0450 J	0.200 U	L
NHFLA-MW6-SEP2020	N	Chromium	5.00	0.230 J	0.230 J	4.00 U	V
NHFLA-MW6-SEP2020	N	Lead	1.00	0.100 J	0.100 J	0.500 U	V

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP12-SEP2020	FD	1,1,1-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 UJ	0.500 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP12-SEP2020	FD	1,1,2-Trichloro-1,2,2-trifluoroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	1,1,2-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	1,1-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	1,1-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	1,2,3-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	1,2,4-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	1,2-Dibromo-3-chloropropane	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-DUP12-SEP2020	FD	1,2-Dibromoethane (EDB)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	1,2-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	1,2-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	1,2-Dichloropropane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	1,3-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	1,4-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	2-Butanone (MEK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP12-SEP2020	FD	2-Hexanone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP12-SEP2020	FD	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP12-SEP2020	FD	Acetone	5.00	3.80 J	5.00 UJ	5.00 UJ	V
NHFLA-DUP12-SEP2020	FD	Benzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	Bromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	Bromodichloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	Bromoform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	Bromomethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-DUP12-SEP2020	FD	Carbon disulfide	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	Carbon tetrachloride	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	Chlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	Chloroethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-DUP12-SEP2020	FD	Chloroform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	Chloromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-DUP12-SEP2020	FD	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	Cyclohexane	1.00	5.70	5.70 J	5.70	
NHFLA-DUP12-SEP2020	FD	Dibromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	Dichlorodifluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-DUP12-SEP2020	FD	Ethylbenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	Isopropylbenzene (Cumene)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	m,p-Xylene	2.00	0.750 J	0.750 J	0.750 J	TR
NHFLA-DUP12-SEP2020	FD	Methyl acetate	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-DUP12-SEP2020	FD	Methyl tert-butyl ether (MTBE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	Methylcyclohexane	1.00	9.00	9.00 J	9.00	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP12-SEP2020	FD	Methylene chloride	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP12-SEP2020	FD	o-Xylene	1.00	0.840 J	0.840 J	0.840 J	TR
NHFLA-DUP12-SEP2020	FD	Styrene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	Toluene	1.00	0.390 J	0.500 UJ	0.500 UJ	V
NHFLA-DUP12-SEP2020	FD	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	Trichloroethene (TCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP12-SEP2020	FD	Trichlorofluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-DUP12-SEP2020	FD	Vinyl chloride	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-EB20-SEP2020	EB	1,1,1-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	1,1,2-Trichloro-1,2,2-trifluoroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	1,1,2-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	1,1-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	1,1-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	1,2,3-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	1,2,4-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	1,2-Dibromo-3-chloropropane	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-EB20-SEP2020	EB	1,2-Dibromoethane (EDB)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	1,2-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	1,2-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	1,2-Dichloropropane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	1,3-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	1,4-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	2-Butanone (MEK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-EB20-SEP2020	EB	2-Hexanone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-EB20-SEP2020	EB	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-EB20-SEP2020	EB	Acetone	5.00	3.00 J	3.00 J	3.00 J	TR
NHFLA-EB20-SEP2020	EB	Benzene	1.00	0.300 J	0.300 J	0.300 J	TR
NHFLA-EB20-SEP2020	EB	Bromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	Bromodichloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	Bromoform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	Bromomethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-EB20-SEP2020	EB	Carbon disulfide	1.00	0.260 J	0.500 UJ	0.500 UJ	L
NHFLA-EB20-SEP2020	EB	Carbon tetrachloride	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	Chlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	Chloroethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-EB20-SEP2020	EB	Chloroform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	Chloromethane	2.00	1.00 U	1.00 UJ	1.00 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB20-SEP2020	EB	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	Cyclohexane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	Dibromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	Dichlorodifluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-EB20-SEP2020	EB	Ethylbenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	Isopropylbenzene (Cumene)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	m,p-Xylene	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-EB20-SEP2020	EB	Methyl acetate	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-EB20-SEP2020	EB	Methyl tert-butyl ether (MTBE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	Methylcyclohexane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	Methylene chloride	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-EB20-SEP2020	EB	o-Xylene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	Styrene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	Toluene	1.00	1.00	1.00 J	1.00	
NHFLA-EB20-SEP2020	EB	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	Trichloroethene (TCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB20-SEP2020	EB	Trichlorofluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-EB20-SEP2020	EB	Vinyl chloride	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW10-SEP2020	N	1,1,1-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	1,1,2-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	1,1-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	1,1-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	1,2,3-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	1,2,4-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	1,2-Dibromo-3-chloropropane	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW10-SEP2020	N	1,2-Dibromoethane (EDB)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	1,2-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	1,2-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	1,2-Dichloropropane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	1,3-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	1,4-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	2-Butanone (MEK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW10-SEP2020	N	2-Hexanone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW10-SEP2020	N	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 UJ	2.50 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW10-SEP2020	N	Acetone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW10-SEP2020	N	Benzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	Bromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	Bromodichloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	Bromoform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	Bromomethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW10-SEP2020	N	Carbon disulfide	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	Carbon tetrachloride	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	Chlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	Chloroethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW10-SEP2020	N	Chloroform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	Chloromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW10-SEP2020	N	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	Cyclohexane	1.00	0.650 J	0.650 J	0.650 J	TR
NHFLA-MW10-SEP2020	N	Dibromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	Dichlorodifluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW10-SEP2020	N	Ethylbenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	Isopropylbenzene (Cumene)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	m,p-Xylene	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW10-SEP2020	N	Methyl acetate	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW10-SEP2020	N	Methyl tert-butyl ether (MTBE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	Methylcyclohexane	1.00	4.00	4.00 J	4.00	
NHFLA-MW10-SEP2020	N	Methylene chloride	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW10-SEP2020	N	o-Xylene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	Styrene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	Toluene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	Trichloroethene (TCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW10-SEP2020	N	Trichlorofluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW10-SEP2020	N	Vinyl chloride	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW12-SEP2020	N	1,1,1-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	1,1,2-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	1,1-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	1,1-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	1,2,3-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW12-SEP2020	N	1,2,4-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	1,2-Dibromo-3-chloropropane	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW12-SEP2020	N	1,2-Dibromoethane (EDB)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	1,2-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	1,2-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	1,2-Dichloropropane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	1,3-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	1,4-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	2-Butanone (MEK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW12-SEP2020	N	2-Hexanone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW12-SEP2020	N	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW12-SEP2020	N	Acetone	5.00	2.90 J	5.00 UJ	5.00 U	V
NHFLA-MW12-SEP2020	N	Benzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	Bromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	Bromodichloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	Bromoform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	Bromomethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW12-SEP2020	N	Carbon disulfide	1.00	0.350 J	0.500 UJ	0.500 U	V/L/T
NHFLA-MW12-SEP2020	N	Carbon tetrachloride	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	Chlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	Chloroethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW12-SEP2020	N	Chloroform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	Chloromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW12-SEP2020	N	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	Cyclohexane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	Dibromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	Dichlorodifluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW12-SEP2020	N	Ethylbenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	Isopropylbenzene (Cumene)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	m,p-Xylene	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW12-SEP2020	N	Methyl acetate	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW12-SEP2020	N	Methyl tert-butyl ether (MTBE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	Methylcyclohexane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	Methylene chloride	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW12-SEP2020	N	o-Xylene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	Styrene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	Toluene	1.00	0.500 U	0.500 UJ	0.500 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW12-SEP2020	N	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	Trichloroethene (TCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW12-SEP2020	N	Trichlorofluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW12-SEP2020	N	Vinyl chloride	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW13-SEP2020	N	1,1,1-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	1,1,2-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	1,1-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	1,1-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	1,2,3-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	1,2,4-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	1,2-Dibromo-3-chloropropane	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW13-SEP2020	N	1,2-Dibromoethane (EDB)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	1,2-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	1,2-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	1,2-Dichloropropane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	1,3-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	1,4-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	2-Butanone (MEK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW13-SEP2020	N	2-Hexanone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW13-SEP2020	N	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW13-SEP2020	N	Acetone	5.00	3.00 J	5.00 UJ	5.00 U	V
NHFLA-MW13-SEP2020	N	Benzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	Bromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	Bromodichloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	Bromoform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	Bromomethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW13-SEP2020	N	Carbon disulfide	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	Carbon tetrachloride	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	Chlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	Chloroethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW13-SEP2020	N	Chloroform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	Chloromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW13-SEP2020	N	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	Cyclohexane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	Dibromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	Dichlorodifluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW13-SEP2020	N	Ethylbenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	Isopropylbenzene (Cumene)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	m,p-Xylene	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW13-SEP2020	N	Methyl acetate	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW13-SEP2020	N	Methyl tert-butyl ether (MTBE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	Methylcyclohexane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	Methylene chloride	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW13-SEP2020	N	o-Xylene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	Styrene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	Toluene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	Trichloroethene (TCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW13-SEP2020	N	Trichlorofluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW13-SEP2020	N	Vinyl chloride	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW14-SEP2020	N	1,1,1-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW14-SEP2020	N	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW14-SEP2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW14-SEP2020	N	1,1,2-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW14-SEP2020	N	1,1-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW14-SEP2020	N	1,1-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW14-SEP2020	N	1,2,3-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW14-SEP2020	N	1,2,4-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW14-SEP2020	N	1,2-Dibromo-3-chloropropane	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW14-SEP2020	N	1,2-Dibromoethane (EDB)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW14-SEP2020	N	1,2-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW14-SEP2020	N	1,2-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW14-SEP2020	N	1,2-Dichloropropane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW14-SEP2020	N	1,3-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW14-SEP2020	N	1,4-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW14-SEP2020	N	2-Butanone (MEK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW14-SEP2020	N	2-Hexanone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW14-SEP2020	N	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW14-SEP2020	N	Acetone	5.00	4.30 J	5.00 UJ	5.00 U	V
NHFLA-MW14-SEP2020	N	Benzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW14-SEP2020	N	Bromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW14-SEP2020	N	Bromodichloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW14-SEP2020	N	Bromoform	1.00	0.500 U	0.500 UJ	0.500 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW14-SEP2020	N	Bromomethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW14-SEP2020	N	Carbon disulfide	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW14-SEP2020	N	Carbon tetrachloride	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW14-SEP2020	N	Chlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW14-SEP2020	N	Chloroethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW14-SEP2020	N	Chloroform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW14-SEP2020	N	Chloromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW14-SEP2020	N	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW14-SEP2020	N	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW14-SEP2020	N	Cyclohexane	1.00	5.40	5.40 J	5.40	
NHFLA-MW14-SEP2020	N	Dibromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW14-SEP2020	N	Dichlorodifluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW14-SEP2020	N	Ethylbenzene	1.00	0.300 J	0.300 J	0.300 J	TR
NHFLA-MW14-SEP2020	N	Isopropylbenzene (Cumene)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW14-SEP2020	N	m,p-Xylene	2.00	0.710 J	0.710 J	0.710 J	TR
NHFLA-MW14-SEP2020	N	Methyl acetate	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW14-SEP2020	N	Methyl tert-butyl ether (MTBE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW14-SEP2020	N	Methylcyclohexane	1.00	8.40	8.40 J	8.40	
NHFLA-MW14-SEP2020	N	Methylene chloride	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW14-SEP2020	N	o-Xylene	1.00	0.750 J	0.750 J	0.750 J	TR
NHFLA-MW14-SEP2020	N	Styrene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW14-SEP2020	N	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW14-SEP2020	N	Toluene	1.00	0.410 J	0.500 UJ	0.500 U	V
NHFLA-MW14-SEP2020	N	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW14-SEP2020	N	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW14-SEP2020	N	Trichloroethene (TCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW14-SEP2020	N	Trichlorofluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW14-SEP2020	N	Vinyl chloride	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW16-SEP2020	N	1,1,1-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	1,1,2-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	1,1-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	1,1-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	1,2,3-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	1,2,4-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	1,2-Dibromo-3-chloropropane	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW16-SEP2020	N	1,2-Dibromoethane (EDB)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	1,2-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW16-SEP2020	N	1,2-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	1,2-Dichloropropane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	1,3-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	1,4-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	2-Butanone (MEK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW16-SEP2020	N	2-Hexanone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW16-SEP2020	N	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW16-SEP2020	N	Acetone	5.00	11.0	11.0 J	11.0 J	V
NHFLA-MW16-SEP2020	N	Benzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	Bromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	Bromodichloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	Bromoform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	Bromomethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW16-SEP2020	N	Carbon disulfide	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	Carbon tetrachloride	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	Chlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	Chloroethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW16-SEP2020	N	Chloroform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	Chloromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW16-SEP2020	N	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	Cyclohexane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	Dibromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	Dichlorodifluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW16-SEP2020	N	Ethylbenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	Isopropylbenzene (Cumene)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	m,p-Xylene	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW16-SEP2020	N	Methyl acetate	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW16-SEP2020	N	Methyl tert-butyl ether (MTBE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	Methylcyclohexane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	Methylene chloride	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW16-SEP2020	N	o-Xylene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	Styrene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	Toluene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	Trichloroethene (TCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW16-SEP2020	N	Trichlorofluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW16-SEP2020	N	Vinyl chloride	2.00	1.00 U	1.00 UJ	1.00 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW3-SEP2020	N	1,1,1-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	1,1,2-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	1,1-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	1,1-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	1,2,3-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	1,2,4-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	1,2-Dibromo-3-chloropropane	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW3-SEP2020	N	1,2-Dibromoethane (EDB)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	1,2-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	1,2-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	1,2-Dichloropropane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	1,3-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	1,4-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	2-Butanone (MEK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW3-SEP2020	N	2-Hexanone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW3-SEP2020	N	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW3-SEP2020	N	Acetone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW3-SEP2020	N	Benzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	Bromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	Bromodichloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	Bromoform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	Bromomethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW3-SEP2020	N	Carbon disulfide	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	Carbon tetrachloride	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	Chlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	Chloroethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW3-SEP2020	N	Chloroform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	Chloromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW3-SEP2020	N	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	Cyclohexane	1.00	0.950 J	0.950 J	0.950 J	TR
NHFLA-MW3-SEP2020	N	Dibromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	Dichlorodifluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW3-SEP2020	N	Ethylbenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	Isopropylbenzene (Cumene)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	m,p-Xylene	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW3-SEP2020	N	Methyl acetate	1.00	0.750 U	0.750 UJ	0.750 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW3-SEP2020	N	Methyl tert-butyl ether (MTBE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	Methylcyclohexane	1.00	2.80	2.80 J	2.80	
NHFLA-MW3-SEP2020	N	Methylene chloride	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW3-SEP2020	N	o-Xylene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	Styrene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	Toluene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	Trichloroethene (TCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW3-SEP2020	N	Trichlorofluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW3-SEP2020	N	Vinyl chloride	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW6-SEP2020	N	1,1,1-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW6-SEP2020	N	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW6-SEP2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW6-SEP2020	N	1,1,2-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW6-SEP2020	N	1,1-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW6-SEP2020	N	1,1-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW6-SEP2020	N	1,2,3-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW6-SEP2020	N	1,2,4-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW6-SEP2020	N	1,2-Dibromo-3-chloropropane	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW6-SEP2020	N	1,2-Dibromoethane (EDB)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW6-SEP2020	N	1,2-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW6-SEP2020	N	1,2-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW6-SEP2020	N	1,2-Dichloropropane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW6-SEP2020	N	1,3-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW6-SEP2020	N	1,4-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW6-SEP2020	N	2-Butanone (MEK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW6-SEP2020	N	2-Hexanone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW6-SEP2020	N	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW6-SEP2020	N	Acetone	5.00	4.90 J	5.00 UJ	5.00 U	V
NHFLA-MW6-SEP2020	N	Benzene	1.00	0.300 J	0.500 UJ	0.500 U	V
NHFLA-MW6-SEP2020	N	Bromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW6-SEP2020	N	Bromodichloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW6-SEP2020	N	Bromoform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW6-SEP2020	N	Bromomethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW6-SEP2020	N	Carbon disulfide	1.00	0.260 J	0.500 UJ	0.500 U	V/L/T
NHFLA-MW6-SEP2020	N	Carbon tetrachloride	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW6-SEP2020	N	Chlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW6-SEP2020	N	Chloroethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW6-SEP2020	N	Chloroform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW6-SEP2020	N	Chloromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW6-SEP2020	N	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW6-SEP2020	N	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW6-SEP2020	N	Cyclohexane	1.00	2.10	2.10 J	2.10	
NHFLA-MW6-SEP2020	N	Dibromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW6-SEP2020	N	Dichlorodifluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW6-SEP2020	N	Ethylbenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW6-SEP2020	N	Isopropylbenzene (Cumene)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW6-SEP2020	N	m,p-Xylene	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW6-SEP2020	N	Methyl acetate	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW6-SEP2020	N	Methyl tert-butyl ether (MTBE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW6-SEP2020	N	Methylcyclohexane	1.00	5.60	5.60 J	5.60	
NHFLA-MW6-SEP2020	N	Methylene chloride	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW6-SEP2020	N	o-Xylene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW6-SEP2020	N	Styrene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW6-SEP2020	N	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW6-SEP2020	N	Toluene	1.00	0.280 J	0.500 UJ	0.500 U	V
NHFLA-MW6-SEP2020	N	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW6-SEP2020	N	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW6-SEP2020	N	Trichloroethene (TCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW6-SEP2020	N	Trichlorofluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW6-SEP2020	N	Vinyl chloride	2.00	1.00 U	1.00 UJ	1.00 U	

Modified Qualifiers for test method SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW6-SEP2020	N	2,3,4,6-Tetrachlorophenol	9.50	7.10 U	7.10 UJ	7.10 U	
NHFLA-MW6-SEP2020	N	2,4,5-Trichlorophenol	24.0	18.0 U	18.0 UJ	18.0 U	
NHFLA-MW6-SEP2020	N	2,4,6-Trichlorophenol	9.50	7.10 U	7.10 UJ	7.10 U	
NHFLA-MW6-SEP2020	N	2,4-Dichlorophenol	9.50	7.10 U	7.10 UJ	7.10 U	
NHFLA-MW6-SEP2020	N	2,4-Dimethylphenol	9.50	7.10 U	7.10 UJ	7.10 U	
NHFLA-MW6-SEP2020	N	2,4-Dinitrophenol	24.0	18.0 U	18.0 UJ	18.0 U	
NHFLA-MW6-SEP2020	N	2-Chlorophenol	9.50	7.10 U	7.10 UJ	7.10 U	
NHFLA-MW6-SEP2020	N	2-Methylphenol (o-Cresol)	9.50	7.10 U	7.10 UJ	7.10 U	
NHFLA-MW6-SEP2020	N	2-Nitrophenol	9.50	7.10 U	7.10 UJ	7.10 U	
NHFLA-MW6-SEP2020	N	4,6-Dinitro-2-methylphenol	24.0	18.0 U	18.0 UJ	18.0 U	
NHFLA-MW6-SEP2020	N	4-Chloro-3-methylphenol	9.50	7.10 U	7.10 UJ	7.10 U	
NHFLA-MW6-SEP2020	N	4-Nitrophenol	24.0	18.0 U	18.0 UJ	18.0 U	
NHFLA-MW6-SEP2020	N	Cresols, m- & p-	9.50	7.10 U	7.10 UJ	7.10 U	
NHFLA-MW6-SEP2020	N	Pentachlorophenol	24.0	18.0 U	18.0 UJ	18.0 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW6-SEP2020	N	Phenol	9.50	7.10 U	7.10 UJ	7.10 U	

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling
Field Duplicates for SDG: SN8059

Location	Analysis
NHFLA-MW14	A2340B

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Hardness (as CaCO3)	467000	460000	650	1.51	35	OK	NA

Location	Analysis
NHFLA-MW14	BNASIM

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	2-Methylnaphthalene	0.230	0.170	0.200	30.0	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Acenaphthene	ND	ND	0.200	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Acenaphthylene	ND	ND	0.200	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Anthracene	ND	ND	0.200	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Benzo(a)anthracene	ND	ND	0.200	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Benzo(a)pyrene	ND	ND	0.200	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Benzo(b)fluoranthene	ND	ND	0.200	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Benzo(g,h,i)perylene	ND	ND	0.200	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Benzo(k)fluoranthene	ND	ND	0.200	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Chrysene	0.0390	ND	0.200	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Dibenz(a,h)anthracene	ND	ND	0.200	NA	35	NA	OK

FD = Field Duplicate
RL = Reporting Limit
RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling
Field Duplicates for SDG: SN8059

Location	Analysis
NHFLA-MW14	BNASIM

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Fluoranthene	ND	ND	0.200	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Fluorene	ND	ND	0.200	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Indeno(1,2,3-c,d)pyrene	ND	ND	0.200	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Naphthalene	ND	ND	0.200	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Phenanthrene	ND	ND	0.200	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Pyrene	ND	ND	0.200	NA	35	NA	OK

Location	Analysis
NHFLA-MW14	SW6020

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Aluminum	297	321	100	7.77	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-14 / SN8059-12	Aluminum (DSSVLD)	ND	ND	100	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Antimony	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-14 / SN8059-12	Antimony (DSSVLD)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Arsenic	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-14 / SN8059-12	Arsenic (DSSVLD)	ND	ND	5.00	NA	35	NA	OK

FD = Field Duplicate
RL = Reporting Limit
RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling
Field Duplicates for SDG: SN8059

Location	Analysis
NHFLA-MW14	SW6020

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Barium	121	119	2.00	1.67	35	OK	NA
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-14 / SN8059-12	Barium (DSSVLD)	114	117	2.00	2.60	35	OK	NA
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Beryllium	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-14 / SN8059-12	Beryllium (DSSVLD)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Cadmium	0.0420	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-14 / SN8059-12	Cadmium (DSSVLD)	ND	0.0300	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Calcium	133000	132000	100	0.755	35	OK	NA
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-14 / SN8059-12	Calcium (DSSVLD)	133000	133000	100	0.00	35	OK	NA
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Chromium	0.740	0.730	5.00	1.36	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-14 / SN8059-12	Chromium (DSSVLD)	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Cobalt	0.450	0.430	1.00	4.55	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-14 / SN8059-12	Cobalt (DSSVLD)	0.160	0.160	1.00	0.00	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Copper	3.25	3.32	3.00	2.13	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-14 / SN8059-12	Copper (DSSVLD)	ND	ND	3.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Iron	3040	3040	100	0.00	35	OK	NA

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RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling
Field Duplicates for SDG: SN8059

Location	Analysis
NHFLA-MW14	SW6020

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-14 / SN8059-12	Iron (DSSVLD)	1340	1370	100	2.21	35	OK	NA
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Lead	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-14 / SN8059-12	Lead (DSSVLD)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Magnesium	32400	31900	100	1.56	35	OK	NA
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-14 / SN8059-12	Magnesium (DSSVLD)	32300	32400	100	0.309	35	OK	NA
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Manganese	1930	1890	2.00	2.09	35	OK	NA
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-14 / SN8059-12	Manganese (DSSVLD)	1920	1930	2.00	0.519	35	OK	NA
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Nickel	2.88	2.94	2.00	2.06	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-14 / SN8059-12	Nickel (DSSVLD)	ND	ND	2.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Potassium	14700	14400	1000	2.06	35	OK	NA
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-14 / SN8059-12	Potassium (DSSVLD)	14300	14500	1000	1.39	35	OK	NA
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Selenium	0.250	0.250	5.00	0.00	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-14 / SN8059-12	Selenium (DSSVLD)	0.220	ND	5.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Silver	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-14 / SN8059-12	Silver (DSSVLD)	ND	ND	1.00	NA	35	NA	OK

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Field Duplicate Report By SDG

C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling
Field Duplicates for SDG: SN8059

Location	Analysis
NHFLA-MW14	SW6020

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Sodium	628000	615000	1000	2.09	35	OK	NA
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-14 / SN8059-12	Sodium (DSSVLD)	624000	631000	1000	1.12	35	OK	NA
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Thallium	0.130	0.130	1.00	0.00	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-14 / SN8059-12	Thallium (DSSVLD)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Vanadium	1.80	1.80	5.00	0.00	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-14 / SN8059-12	Vanadium (DSSVLD)	ND	0.510	5.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Zinc	5.00	4.80	10.0	4.08	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-14 / SN8059-12	Zinc (DSSVLD)	6.20	ND	10.0	NA	35	NA	OK

Location	Analysis
NHFLA-MW14	SW7196

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Chromium, Hexavalent	ND	ND	0.0250	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling
Field Duplicates for SDG: SN8059

Location	Analysis
NHFLA-MW14	SW7470

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Mercury	ND	ND	0.200	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-14 / SN8059-12	Mercury (DSSVLD)	ND	ND	0.200	NA	35	NA	OK

Location	Analysis
NHFLA-MW14	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	1,1,1-Trichloroethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	1,1,2,2-Tetrachloroethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	1,1,2-Trichloroethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	1,1-Dichloroethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	1,1-Dichloroethene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	1,2,3-Trichlorobenzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	1,2,4-Trichlorobenzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	1,2-Dibromo-3-chloropropane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	1,2-Dibromoethane (EDB)	ND	ND	1.00	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling
Field Duplicates for SDG: SN8059

Location	Analysis
NHFLA-MW14	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	1,2-Dichlorobenzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	1,2-Dichloroethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	1,2-Dichloropropane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	1,3-Dichlorobenzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	1,4-Dichlorobenzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	2-Butanone (MEK)	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	2-Hexanone	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	4-Methyl-2-pentanone (MIBK)	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Acetone	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Benzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Bromochloromethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Bromodichloromethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Bromoform	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Bromomethane	ND	ND	2.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Carbon disulfide	ND	ND	1.00	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling
Field Duplicates for SDG: SN8059

Location	Analysis
NHFLA-MW14	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Carbon tetrachloride	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Chlorobenzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Chloroethane	ND	ND	2.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Chloroform	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Chloromethane	ND	ND	2.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	cis-1,2-Dichloroethene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	cis-1,3-Dichloropropene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Cyclohexane	5.40	5.70	1.00	5.41	35	OK	NA
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Dibromochloromethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Dichlorodifluoromethane	ND	ND	2.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Ethylbenzene	0.300	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Isopropylbenzene (Cumene)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	m,p-Xylene	0.710	0.750	2.00	5.48	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Methyl acetate	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Methyl tert-butyl ether (MTBE)	ND	ND	1.00	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling
Field Duplicates for SDG: SN8059

Location	Analysis
NHFLA-MW14	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Methylcyclohexane	8.40	9.00	1.00	6.90	35	OK	NA
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Methylene chloride	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	o-Xylene	0.750	0.840	1.00	11.3	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Styrene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Tetrachloroethene (PCE)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Toluene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	trans-1,2-Dichloroethene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	trans-1,3-Dichloropropene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Trichloroethene (TCE)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Trichlorofluoromethane	ND	ND	2.00	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Vinyl chloride	ND	ND	2.00	NA	35	NA	OK

Location	Analysis
NHFLA-MW14	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	1,2,4,5-Tetrachlorobenzene	ND	ND	9.90	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling
Field Duplicates for SDG: SN8059

Location	Analysis
NHFLA-MW14	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	1,4-Dioxane (p-Dioxane)	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	2,2'-Oxybis(1-chloropropane)	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	2,3,4,6-Tetrachlorophenol	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	2,4,5-Trichlorophenol	ND	ND	25.0	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	2,4,6-Trichlorophenol	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	2,4-Dichlorophenol	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	2,4-Dimethylphenol	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	2,4-Dinitrophenol	ND	ND	25.0	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	2,4-Dinitrotoluene	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	2,6-Dinitrotoluene	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	2-Chloronaphthalene	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	2-Chlorophenol	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	2-Methylphenol (o-Cresol)	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	2-Nitroaniline	ND	ND	25.0	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	2-Nitrophenol	ND	ND	9.90	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling
Field Duplicates for SDG: SN8059

Location	Analysis
NHFLA-MW14	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	3,3'-Dichlorobenzidine	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	3-Nitroaniline	ND	ND	25.0	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	4,6-Dinitro-2-methylphenol	ND	ND	25.0	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	4-Bromophenyl phenyl ether	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	4-Chloro-3-methylphenol	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	4-Chloroaniline	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	4-Chlorophenyl phenyl ether	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	4-Nitroaniline	ND	ND	25.0	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	4-Nitrophenol	ND	ND	25.0	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Acetophenone	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Atrazine	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Benzaldehyde	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Benzyl butyl phthalate	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Biphenyl (Diphenyl)	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Bis(2-chloroethoxy)methane	ND	ND	9.90	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling
Field Duplicates for SDG: SN8059

Location	Analysis
NHFLA-MW14	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Bis(2-ethylhexyl)phthalate	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Caprolactam	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Carbazole	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Cresols, m- & p-	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Di-n-butyl phthalate	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	di-n-Octyl phthalate	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Dibenzofuran	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Diethyl phthalate	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Dimethyl phthalate	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Hexachlorobenzene	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Hexachlorobutadiene	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Hexachlorocyclopentadiene	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Hexachloroethane	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Isophorone	ND	ND	9.90	NA	35	NA	OK

FD = Field Duplicate
RL = Reporting Limit
RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling
Field Duplicates for SDG: SN8059

Location	Analysis
NHFLA-MW14	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	N-Nitrosodi-n-propylamine	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	N-Nitrosodiphenylamine	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Nitrobenzene	ND	ND	9.90	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Pentachlorophenol	ND	ND	25.0	NA	35	NA	OK
NHFLA-MW14-SEP2020 / NHFLA-DUP12-SEP2020	SN8059-13 / SN8059-11	Phenol	ND	ND	9.90	NA	35	NA	OK

FD = Field Duplicate
RL = Reporting Limit
RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Automated Data Review Detail Report for SN8059
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Rejected Results

--No Records Found--

Automated Data Review Detail Report for SN8059
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
A2340B/METHOD/NONE	9	9

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
A2340B/METHOD/NONE	NHFLA-DUP12-SEP2020	FD	5	Hardness (as CaCO3)	460000	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-EB20-SEP2020	EB	5	Hardness (as CaCO3)	180 J	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW10-SEP2020	N	5	Hardness (as CaCO3)	295000	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW12-SEP2020	N	5	Hardness (as CaCO3)	266000	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW13-SEP2020	N	5	Hardness (as CaCO3)	135000	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW14-SEP2020	N	5	Hardness (as CaCO3)	467000	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW16-SEP2020	N	5	Hardness (as CaCO3)	1630000	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW3-SEP2020	N	5	Hardness (as CaCO3)	994000	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW6-SEP2020	N	5	Hardness (as CaCO3)	274000	85.0	530	650	5	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
C	LCS Recovery
H1	Test Hold Time
I	Surrogate recovery outside project limits.
L	Lab Blank
M	MS Recovery
T	Trip Blank
TR	Trace Level Detect
V	Equipment Blank

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: A2340B (Hardness by Calculation)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?			•	
Were target analytes in the method blank less than MDL?			•	
Were target analytes in the field blank less than MDL?		•		equipment blank had detection of 180J.
Was an LCS/LCSD pair prepared and analyzed with each batch?		•		
Were LCS/LCSD recoveries within project acceptance limits?		•		
Was the LCS/LCSD RPD within project acceptance limits?		•		
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?		•		
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: BNASIM (GC/MS-SIM Analysis by SW8270)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS ONLY
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		ICV outlier issues noted in case narrative were not addressed as part of this stage 2A validation review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW6020 (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch NI29IMW1 prep blank had detections below the LOQ for antimony, beryllium, copper, lead, manganese. The following metals/samples combinations were qualified non-detect at the LOD with U/L flags/reason codes - antimony - all results except equipment blank, beryllium samples -003, -004, -005, -007, -008, -009, -011, -013, copper - sample -015, lead - samples -001, -003, -009, -011, -013, -015.
Were target analytes in the field blank less than MDL?		•		Filter blank from SDG SN8027 (PER COC) and equipment blank detections were used to qualify multiple results (filter blank - aluminum, chromium, copper, lead, nickel, zinc and equipment blank - aluminum, barium, calcium, copper, iron, magnesium, manganese, sodium) as noted in the summary tables and flagged U/V at the LOD with the following exceptions (filter blank used for dissolved metals only). Qualified as non-detect at the LOQ for NICKEL in samples -012, -014 and ZINC in samples -002, -012. Qualified as estimated at concentration detected and flagged JV+ for COPPER in samples -002, -006 and zinc in samples -004, -006 and -010. Several equipment blank detections also required J/V/+ qualifiers for multiple metals as noted in the equipment blank outlier tables.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?	•			
Were the serial dilution RPD values within project acceptance limits?	•			
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			CCB outlier was re-analyzed and passed DoD criteria.
Were DoD QSM corrective actions followed if deviations were noted?	•			

Review Questions

Method: SW6020 (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW7196 (Chromium, Hexavalent (Colorimetric))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG287088 had detection below LOQ. Samples -001, -007, -009, -011, -013, -015 were qualified U/L flags/reason codes as non-detect at the LOD.
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		MS recovery was outlier biased low for sample -001. Sample results were qualified estimated with UJ/M flag/reason code.
Was the MS/MSD RPD within project acceptance limits?	•			
Were the post spike recoveries within project acceptance limits?			•	PDS data not included
Were the serial dilution RPD values within project acceptance limits?			•	Serial dilution data not included.
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW7470 (Mercury in Liquid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		Prep blank NI30HGW3 had a detection below the LOQ. The following sample mercury results were qualified as non-detect at the LOD with U/L flags/reason codes: -001, -003, -005, -007, -009, -011.
Were target analytes in the field blank less than MDL?		•		Equipment blank detection below LOQ results in qualification of following sample mercury results as non-detect at LOD with U/V flags/reason codes: -002, -004, -006, -008, -010, -012, -016.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?	•			
Were the serial dilution RPD values within project acceptance limits?	•			
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			ICV outliers were re-analyzed and acceptable per DoD criteria.
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW8260 (Volatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			See holding time comment above.
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Sample -019 had one of four surrogates outside of project criteria biased high. All associated results were non-detect so qualification was not required.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG287832 detection for carbon disulfide. The following sample results for this analyte were qualified non-detect at the LOD with U/L flag/reason codes: -005, -007, -017, -020.
Were target analytes in the field blank less than MDL?		•		Equipment blank had detections below LOQ for carbon disulfide, acetone, benzene and at LOQ for toluene. Trip blank (1 of 2) had detections below LOQ for carbon disulfide and methylene chloride. Qualifications were made as noted in the equipment blank outlier table for SW8260.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		CCV outlier issues noted in case narrative were not addressed as part of this stage 2A validation review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW8270 (Semivolatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Sample -007 surrogates were biased low for 1 of 3 base-neutral fraction surrogates so all base-neutral fraction target analytes were qualified estimated with J/UJ flags in client sample -007.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?		•		Detections for caprolactam and diethylphthalate did not require qualification for field sample results.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch WG287179 had high bias for benzaldehyde. Qualification was not required based on this high bias recovery.
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		ICAL, ICV and CCV outlier issues noted in case narrative were not addressed as part of this stage 2A validation review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling
SDG:	SN8108
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Katahdin Analytical Services, Westbrook, ME
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	December 30, 2020- resubmitted February 11, 2021 LOD/LOQ and S2AVEM-26 narration clarifications.

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	A2340B	BNASIM	SW6020	SW6020 - Dissolved	SW7196	SW7470	SW7470 - Dissolved	SW8260	SW8270
NHFLA-EB21-SEP2020	SN8108-5	Water	Equipment Blank/EB	X	X	X		X	X		X	X
NHFLA-EB21-SEP2020	SN8108-6	Water	Equipment Blank/EB				X			X		
NHFLA-MW11-SEP2020	SN8108-11	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW11-SEP2020	SN8108-12	Water	Field Sample/N				X			X		
NHFLA-MW15-SEP2020	SN8108-3	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW15-SEP2020	SN8108-4	Water	Field Sample/N				X			X		
NHFLA-MW8-SEP2020	SN8108-1	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW8-SEP2020	SN8108-2	Water	Field Sample/N				X			X		
NHFLA-MW9BR-SEP2020	SN8108-13	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW9BR-SEP2020	SN8108-14	Water	Field Sample/N				X			X		
NHFLA-MW9OB-SEP2020	SN8108-7	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW9OB-SEP2020	SN8108-8	Water	Field Sample/N				X			X		
NHFLA-TB26-SEP2020	SN8108-15	Water	Trip Blank/TB								X	
NHFLA-TB27-SEP2020	SN8108-17	Water	Trip Blank/TB								X	

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Katahdin Analytical Services, Westbrook, ME and were reported under sample delivery group (SDG) SN8108. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Lab Blank
- LCS Recovery
- LCS RPD
- MS Recovery
- Prep Hold Time
- Surrogate
- Test Hold Time
- Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 151 results (13.68%) out of the 1104 results (sample and field QC samples) reported are qualified based on review and 6 results (0.54%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

NOTE: Sample MW-14 was not received as noted on COC. Container for hexavalent chromium for sample MW11 was not received.

Analytical Method	Data Reviewer Comment
A2340B	No additional comments; see Checklist for detail.
BNASIM	No additional comments; see Checklist for detail.
SW6020	No additional comments; see Checklist for detail.
SW7196	No additional comments; see Checklist for detail.
SW7470	No additional comments; see Checklist for detail.
SW8260	No additional comments; see Checklist for detail.
SW8270	No additional comments; see Checklist for detail.

Jim Tomalia

February 11, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method BNASIM, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG287251-1 (LB)/ WG287251-1	Chrysene	0.04800	< 0.036	< 0.2	ug/l	U/None	L	
WG287251-1 (LB)/ WG287251-1	Pyrene	0.07100	< 0.059	< 0.2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW15-SEP2020	N	Chrysene	0.190	0.0470 J	0.0930 U		ug/l	L
NHFLA-MW15-SEP2020	N	Pyrene	0.190	0.0550 J	0.0930 U		ug/l	L
NHFLA-MW8-SEP2020	N	Chrysene	0.190	0.0370 J	0.0930 U		ug/l	L
NHFLA-MW9BR-SEP2020	N	Chrysene	0.200	0.0400 J	0.0980 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method BNASIM, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW11-SEP2020 (N)/ SN8108-11	2-Methylnaphthalene-d10	42.80	43 - 92	10 - 92	percent	J/UJ	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW11-SEP2020	N	2-Methylnaphthalene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Acenaphthene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Acenaphthylene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Anthracene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Benzo(a)anthracene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Benzo(a)pyrene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Benzo(b)fluoranthene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Benzo(g,h,i)perylene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Benzo(k)fluoranthene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Chrysene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Dibenz(a,h)anthracene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Fluoranthene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Fluorene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Indeno(1,2,3-c,d)pyrene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Naphthalene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Phenanthrene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Pyrene	0.190	0.0930 U	0.0930 UJ		ug/l	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Dissolved, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB21-SEP2020 (EB)/ SN8108-6	Lead	0.1700	< 0.075	< 1	ug/l	U/None	V	
NHFLA-EB21-SEP2020 (EB)/ SN8108-6	Chromium	0.2600	< 0.22	< 5	ug/l	U/None	V	
NHFLA-EB21-SEP2020 (EB)/ SN8108-6	Barium	0.4400	< 0.27	< 2	ug/l	U/None	V	
NHFLA-EB21-SEP2020 (EB)/ SN8108-6	Manganese	0.8500	< 0.35	< 2	ug/l	U/None	V	
NHFLA-EB21-SEP2020 (EB)/ SN8108-6	Sodium	110.0	< 19	< 1000	ug/l	U/None	V	
NHFLA-EB21-SEP2020 (EB)/ SN8108-6	Calcium	110.0	< 21	< 100	ug/l	U/None	V	
NHFLA-EB21-SEP2020 (EB)/ SN8108-6	Aluminum	13.00	< 4.4	< 100	ug/l	U/None	V	
NHFLA-EB21-SEP2020 (EB)/ SN8108-6	Magnesium	17.00	< 8	< 100	ug/l	U/None	V	
NHFLA-EB21-SEP2020 (EB)/ SN8108-6	Iron	27.00	< 13	< 100	ug/l	U/None	V	
NHFLA-EB21-SEP2020 (EB)/ SN8108-6	Zinc	7.400	< 3.9	< 10	ug/l	U/None	V	
NHFLA-EB21-SEP2020 (EB)/ SN8108-6	Copper	1.400	< 0.19	< 3	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020, Dissolved, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
SN8108-18 (LB)/ SN8108-18	Lead	0.2400	< 0.075	< 1	ug/l	U/None	L	
SN8108-18 (LB)/ SN8108-18	Manganese	0.3900	< 0.35	< 2	ug/l	U/None	L	
SN8108-18 (LB)/ SN8108-18	Magnesium	17.00	< 8	< 100	ug/l	U/None	L	
SN8108-18 (LB)/ SN8108-18	Sodium	235.0	< 19	< 1000	ug/l	U/None	L	
SN8108-18 (LB)/ SN8108-18	Calcium	56.00	< 21	< 100	ug/l	U/None	L	
SN8108-18 (LB)/ SN8108-18	Aluminum	8.300	< 4.4	< 100	ug/l	U/None	L	
SN8108-18 (LB)/ SN8108-18	Copper	1.100	< 0.19	< 3	ug/l	U/None	L	
SN8108-18 (LB)/ SN8108-18	Barium	1.000	< 0.27	< 2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6020, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB21-SEP2020	EB	Aluminum	100	13.0 J	40.0 U		ug/l	L
NHFLA-EB21-SEP2020	EB	Calcium	110	110	110 U		ug/l	L
NHFLA-EB21-SEP2020	EB	Copper	3.00	1.40 J	2.00 U		ug/l	L
NHFLA-EB21-SEP2020	EB	Lead	1.00	0.170 J	0.500 U		ug/l	L
NHFLA-EB21-SEP2020	EB	Magnesium	100	17.0 J	80.0 U		ug/l	L
NHFLA-MW11-SEP2020	N	Copper	3.00	1.90 J	2.00 U		ug/l	L
NHFLA-MW11-SEP2020	N	Lead	1.00	0.190 J	0.500 U		ug/l	L
NHFLA-MW15-SEP2020	N	Aluminum	100	15.0 J	40.0 U		ug/l	L
NHFLA-MW15-SEP2020	N	Copper	3.00	2.58 J	3.00 U		ug/l	L
NHFLA-MW8-SEP2020	N	Copper	3.00	1.60 J	2.00 U		ug/l	L
NHFLA-MW8-SEP2020	N	Lead	1.00	0.170 J	0.500 U		ug/l	L
NHFLA-MW9BR-SEP2020	N	Aluminum	100	24.0 J	40.0 U		ug/l	L
NHFLA-MW9BR-SEP2020	N	Copper	3.00	2.58 J	3.00 U		ug/l	L
NHFLA-MW9BR-SEP2020	N	Lead	1.00	0.120 J	0.500 U		ug/l	L
NHFLA-MW9OB-SEP2020	N	Aluminum	100	12.0 J	40.0 U		ug/l	L
NHFLA-MW9OB-SEP2020	N	Copper	3.00	3.00 J	3.00 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB21-SEP2020 (EB)/ SN8108-5	Manganese	0.4600	< 0.35	< 2	ug/l	U/None	V	
NHFLA-EB21-SEP2020 (EB)/ SN8108-5	Magnesium	11.00	< 8	< 100	ug/l	U/None	V	
NHFLA-EB21-SEP2020 (EB)/ SN8108-5	Calcium	42.00	< 21	< 100	ug/l	U/None	V	
NHFLA-EB21-SEP2020 (EB)/ SN8108-5	Aluminum	8.300	< 4.4	< 100	ug/l	U/None	V	
NHFLA-EB21-SEP2020 (EB)/ SN8108-5	Copper	0.8100	< 0.19	< 3	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNI30IMW1 (LB)/ PBWNI30IMW1	Beryllium	0.06400	< 0.034	< 1	ug/l	U/None	L	
PBWNI30IMW1 (LB)/ PBWNI30IMW1	Cadmium	0.06900	< 0.03	< 1	ug/l	U/None	L	
PBWNI30IMW1 (LB)/ PBWNI30IMW1	Cobalt	0.1200	< 0.061	< 1	ug/l	U/None	L	
PBWNI30IMW1 (LB)/ PBWNI30IMW1	Lead	0.1600	< 0.074	< 1	ug/l	U/None	L	
PBWNI30IMW1 (LB)/ PBWNI30IMW1	Antimony	0.1700	< 0.054	< 1	ug/l	U/None	L	
PBWNI30IMW1 (LB)/ PBWNI30IMW1	Thallium	0.1800	< 0.061	< 1	ug/l	U/None	L	
PBWNI30IMW1 (LB)/ PBWNI30IMW1	Magnesium	16.00	< 7.8	< 100	ug/l	U/None	L	
PBWNI30IMW1 (LB)/ PBWNI30IMW1	Calcium	23.00	< 20	< 100	ug/l	U/None	L	
PBWNI30IMW1 (LB)/ PBWNI30IMW1	Aluminum	5.200	< 4.4	< 100	ug/l	U/None	L	
PBWNI30IMW1 (LB)/ PBWNI30IMW1	Copper	1.100	< 0.18	< 3	ug/l	U/None	L	
PBWNI30IMW2 (LB)/ PBWNI30IMW2	Cadmium	0.06200	< 0.03	< 1	ug/l	U/None	L	
PBWNI30IMW2 (LB)/ PBWNI30IMW2	Beryllium	0.07000	< 0.034	< 1	ug/l	U/None	L	
PBWNI30IMW2 (LB)/ PBWNI30IMW2	Cobalt	0.08700	< 0.061	< 1	ug/l	U/None	L	
PBWNI30IMW2 (LB)/ PBWNI30IMW2	Lead	0.1200	< 0.074	< 1	ug/l	U/None	L	
PBWNI30IMW2 (LB)/ PBWNI30IMW2	Antimony	0.1300	< 0.054	< 1	ug/l	U/None	L	
PBWNI30IMW2 (LB)/ PBWNI30IMW2	Thallium	0.1600	< 0.061	< 1	ug/l	U/None	L	
PBWNI30IMW2 (LB)/ PBWNI30IMW2	Nickel	0.1800	< 0.15	< 2	ug/l	U/None	L	
PBWNI30IMW2 (LB)/ PBWNI30IMW2	Chromium	0.2400	< 0.22	< 5	ug/l	U/None	L	
PBWNI30IMW2 (LB)/ PBWNI30IMW2	Magnesium	13.00	< 7.8	< 100	ug/l	U/None	L	
PBWNI30IMW2 (LB)/ PBWNI30IMW2	Calcium	22.00	< 20	< 100	ug/l	U/None	L	
PBWNI30IMW2 (LB)/ PBWNI30IMW2	Aluminum	7.200	< 4.4	< 100	ug/l	U/None	L	
PBWNI30IMW2 (LB)/ PBWNI30IMW2	Copper	1.100	< 0.18	< 3	ug/l	U/None	L	
PBWNI30IMW2 (LB)/ PBWNI30IMW2	Barium	1.400	< 0.27	< 2	ug/l	U/None	L	
PBWNJ12IMW2 (LB)/ PBWNJ12IMW2	Barium	0.3000	< 0.27	< 2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB21-SEP2020	EB	Aluminum	100	8.30 J	40.0 U		ug/l	L
NHFLA-EB21-SEP2020	EB	Copper	3.00	0.810 J	2.00 U		ug/l	L
NHFLA-EB21-SEP2020	EB	Calcium	100	42.0 J	80.0 U		ug/l	L
NHFLA-EB21-SEP2020	EB	Magnesium	100	11.0 J	80.0 U		ug/l	L
NHFLA-MW11-SEP2020	N	Beryllium	1.00	0.341 J	1.00 U		ug/l	L
NHFLA-MW11-SEP2020	N	Antimony	1.00	0.260 J	0.500 U		ug/l	L
NHFLA-MW11-SEP2020	N	Cadmium	1.00	0.0810 J	0.200 U		ug/l	L
NHFLA-MW11-SEP2020	N	Chromium	5.00	4.14 J	5.00 U		ug/l	L
NHFLA-MW11-SEP2020	N	Thallium	1.00	0.300 J	0.400 U		ug/l	L
NHFLA-MW15-SEP2020	N	Aluminum	100	51.3 J	100 U		ug/l	L
NHFLA-MW15-SEP2020	N	Copper	3.00	1.60 J	2.00 U		ug/l	L
NHFLA-MW15-SEP2020	N	Antimony	1.00	0.130 J	0.500 U		ug/l	L
NHFLA-MW15-SEP2020	N	Cobalt	1.00	0.400 J	1.00 U		ug/l	L
NHFLA-MW15-SEP2020	N	Thallium	1.00	0.120 J	0.400 U		ug/l	L
NHFLA-MW8-SEP2020	N	Beryllium	1.00	0.120 J	0.200 U		ug/l	L
NHFLA-MW8-SEP2020	N	Copper	3.00	1.50 J	2.00 U		ug/l	L
NHFLA-MW8-SEP2020	N	Cobalt	1.00	0.440 J	1.00 U		ug/l	L
NHFLA-MW8-SEP2020	N	Lead	1.00	0.180 J	0.500 U		ug/l	L
NHFLA-MW8-SEP2020	N	Thallium	1.00	0.0700 J	0.400 U		ug/l	L
NHFLA-MW9BR-SEP2020	N	Beryllium	1.00	0.0620 J	0.200 U		ug/l	L
NHFLA-MW9BR-SEP2020	N	Cobalt	1.00	0.290 J	0.300 U		ug/l	L
NHFLA-MW9BR-SEP2020	N	Lead	1.00	0.210 J	0.500 U		ug/l	L
NHFLA-MW9BR-SEP2020	N	Thallium	1.00	0.130 J	0.400 U		ug/l	L
NHFLA-MW9OB-SEP2020	N	Aluminum	100	61.6 J	100 U		ug/l	L
NHFLA-MW9OB-SEP2020	N	Copper	3.00	2.68 J	3.00 U		ug/l	L
NHFLA-MW9OB-SEP2020	N	Antimony	1.00	0.290 J	0.500 U		ug/l	L
NHFLA-MW9OB-SEP2020	N	Cadmium	1.00	0.0380 J	0.200 U		ug/l	L
NHFLA-MW9OB-SEP2020	N	Chromium	5.00	0.330 J	4.00 U		ug/l	L
NHFLA-MW9OB-SEP2020	N	Lead	1.00	0.0890 J	0.500 U		ug/l	L
NHFLA-MW9OB-SEP2020	N	Thallium	1.00	0.350 J	0.400 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB21-SEP2020 (EB)/ SN8108-5	Chromium, Hexavalent	0.006500	< 0.00076	< 0.025	mg/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW7196, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG287432-1 (LB)/ WG287432-1	Chromium, Hexavalent	0.003600	< 0.00076	< 0.025	mg/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB21-SEP2020	EB	Chromium, Hexavalent	0.0250	0.00650 J	0.0125 X		mg/l	L/H1
NHFLA-MW11-SEP2020	N	Chromium, Hexavalent	0.0250	0.00880 J	0.0125 X		mg/l	L/H1
NHFLA-MW15-SEP2020	N	Chromium, Hexavalent	0.0250	0.00780 J	0.0125 X		mg/l	L/H1
NHFLA-MW8-SEP2020	N	Chromium, Hexavalent	0.0250	0.00750 J	0.0125 X		mg/l	L/H1/M
NHFLA-MW9BR-SEP2020	N	Chromium, Hexavalent	0.0250	0.0100 J	0.0125 X		mg/l	L/H1
NHFLA-MW9OB-SEP2020	N	Chromium, Hexavalent	0.0250	0.00840 J	0.0125 X		mg/l	L/H1

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW8-SEP2020 (MS)/ WG287432-4	Chromium, Hexavalent	2.100	90 - 111	30 - 125	percent	J/X	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW8-SEP2020	N	Chromium, Hexavalent	0.0250	0.00750 J	0.0125 X		mg/l	L/H1/M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB21-SEP2020 (EB)/ SN8108-5		68.90	< 24	< 48	hours	J/X	H1	Test Exceeds UCL
NHFLA-MW11-SEP2020 (N)/ SN8108-11		66.18	< 24	< 48	hours	J/X	H1	Test Exceeds UCL
NHFLA-MW15-SEP2020 (N)/ SN8108-3		69.32	< 24	< 48	hours	J/X	H1	Test Exceeds UCL
NHFLA-MW8-SEP2020 (N)/ SN8108-1		69.57	< 24	< 48	hours	J/X	H1	Test Exceeds UCL
NHFLA-MW8-SEP2020 (N)/ WG287432-4		69.57	< 24	< 48	hours	J/X	H1	Test Exceeds UCL
NHFLA-MW9BR-SEP2020 (N)/ SN8108-13		66.73	< 24	< 48	hours	J/X	H1	Test Exceeds UCL
NHFLA-MW9OB-SEP2020 (N)/ SN8108-7		68.48	< 24	< 48	hours	J/X	H1	Test Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Test Hold Time for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB21-SEP2020	EB	Chromium, Hexavalent	0.0250	0.00650 J	0.0125 X		mg/l	L/H1
NHFLA-MW11-SEP2020	N	Chromium, Hexavalent	0.0250	0.00880 J	0.0125 X		mg/l	L/H1
NHFLA-MW15-SEP2020	N	Chromium, Hexavalent	0.0250	0.00780 J	0.0125 X		mg/l	L/H1
NHFLA-MW8-SEP2020	N	Chromium, Hexavalent	0.0250	0.00750 J	0.0125 X		mg/l	L/H1/M
NHFLA-MW9BR-SEP2020	N	Chromium, Hexavalent	0.0250	0.0100 J	0.0125 X		mg/l	L/H1
NHFLA-MW9OB-SEP2020	N	Chromium, Hexavalent	0.0250	0.00840 J	0.0125 X		mg/l	L/H1

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB21-SEP2020 (EB)/ SN8108-5	Toluene	0.5200	< 0.27	< 1	ug/l	U/None	V	
NHFLA-EB21-SEP2020 (EB)/ SN8108-5	Methylene chloride	1.300	< 1.1	< 5	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG288040-10 (LB)/ WG288040-10	Carbon disulfide	0.3200	< 0.25	< 1	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW11-SEP2020 (N)/ SN8108-11	1,2-Dichloroethane-d4	119.0	81 - 118	10 - 118	percent	J/None	I	
NHFLA-MW8-SEP2020 (N)/ SN8108-1	Toluene-d8	121.0	89 - 112	10 - 112	percent	J/None	I	
NHFLA-MW9BR-SEP2020 (N)/ SN8108-13	1,2-Dichloroethane-d4	122.0	81 - 118	10 - 118	percent	J/None	I	
NHFLA-MW9OB-SEP2020 (N)/ SN8108-7	1,2-Dichloroethane-d4	129.0	81 - 118	10 - 118	percent	J/None	I	
NHFLA-TB26-SEP2020 (TB)/ SN8108-15	1-Bromo-4-fluorobenzene (4-Bromofluorobenzene)	116.0	85 - 114	10 - 114	percent	J/None	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW11-SEP2020	N	Acetone	5.00	3.60 J	3.60 J		ug/l	I/TR
NHFLA-MW11-SEP2020	N	Cyclohexane	1.00	2.40	2.40 J		ug/l	I
NHFLA-MW11-SEP2020	N	Methylcyclohexane	1.00	6.10	6.10 J		ug/l	I
NHFLA-MW11-SEP2020	N	Methylene chloride	5.00	1.70 J	1.70 J		ug/l	I/TR
NHFLA-MW9BR-SEP2020	N	Acetone	5.00	4.10 J	4.10 J	+	ug/l	I/TR
NHFLA-MW9BR-SEP2020	N	Benzene	1.00	11.0	11.0 J	+	ug/l	I
NHFLA-MW9BR-SEP2020	N	Cyclohexane	1.00	11.0	11.0 J	+	ug/l	I
NHFLA-MW9BR-SEP2020	N	Ethylbenzene	1.00	2.90	2.90 J	+	ug/l	I
NHFLA-MW9BR-SEP2020	N	Isopropylbenzene (Cumene)	1.00	0.270 J	0.270 J	+	ug/l	I/TR
NHFLA-MW9BR-SEP2020	N	m,p-Xylene	2.00	7.10	7.10 J	+	ug/l	I
NHFLA-MW9BR-SEP2020	N	Methylcyclohexane	1.00	4.30	4.30 J	+	ug/l	I
NHFLA-MW9BR-SEP2020	N	o-Xylene	1.00	2.60	2.60 J	+	ug/l	I
NHFLA-MW9BR-SEP2020	N	Toluene	1.00	13.0	13.0 J	+	ug/l	I
NHFLA-MW9OB-SEP2020	N	Methylene chloride	5.00	2.00 J	2.00 J		ug/l	I/TR

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB21-SEP2020 (EB)/ SN8108-5		14.07	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL
NHFLA-MW15-SEP2020 (N)/ SN8108-3		14.06	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL
NHFLA-MW8-SEP2020 (N)/ SN8108-1		14.05	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL
NHFLA-MW9BR-SEP2020 (N)/ SN8108-13		14.12	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL
NHFLA-MW9OB-SEP2020 (N)/ SN8108-7		14.18	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB21-SEP2020 (EB)/ SN8108-5	Bis(2-ethylhexyl) phthalate	3.100	< 1.6	< 9.4	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG287250-2 (BS)/ WG287250-2	Benzaldehyde	1024	10 - 189	10 - 189	percent	J/None	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB21-SEP2020 (EB)/ SN8108-5	2,4,6-Tribromophenol	34.20	43 - 140	10 - 140	percent	J/UJ	I	
NHFLA-MW8-SEP2020 (N)/ SN8108-1	Terphenyl-d14	36.80	50 - 134	10 - 134	percent	J/UJ	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB21-SEP2020	EB	2,3,4,6-Tetrachlorophenol	9.40	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB21-SEP2020	EB	2,4,5-Trichlorophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB21-SEP2020	EB	2,4,6-Trichlorophenol	9.40	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB21-SEP2020	EB	2,4-Dichlorophenol	9.40	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB21-SEP2020	EB	2,4-Dimethylphenol	9.40	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB21-SEP2020	EB	2,4-Dinitrophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB21-SEP2020	EB	2-Chlorophenol	9.40	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB21-SEP2020	EB	2-Methylphenol (o-Cresol)	9.40	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB21-SEP2020	EB	2-Nitrophenol	9.40	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB21-SEP2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB21-SEP2020	EB	4-Chloro-3-methylphenol	9.40	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB21-SEP2020	EB	4-Nitrophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB21-SEP2020	EB	Cresols, m- & p-	9.40	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB21-SEP2020	EB	Pentachlorophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB21-SEP2020	EB	Phenol	9.40	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	1,2,4,5-Tetrachlorobenzene	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	1,4-Dioxane (p-Dioxane)	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	2,2'-Oxybis(1-chloropropane)	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	2,4-Dinitrotoluene	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	2,6-Dinitrotoluene	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	2-Chloronaphthalene	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	2-Nitroaniline	23.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	3,3'-Dichlorobenzidine	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	3-Nitroaniline	23.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	4-Bromophenyl phenyl ether	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	4-Chloroaniline	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	4-Chlorophenyl phenyl ether	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	4-Nitroaniline	23.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Acetophenone	9.30	7.00 U	7.00 UJ		ug/l	I

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW8-SEP2020	N	Atrazine	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Benzaldehyde	9.30	7.00 UL	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Benzyl butyl phthalate	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Biphenyl (Diphenyl)	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Bis(2-chloroethoxy) methane	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Bis(2-ethylhexyl) phthalate	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Caprolactam	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Carbazole	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Dibenzofuran	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Diethyl phthalate	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Dimethyl phthalate	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Di-n-butyl phthalate	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	di-n-Octyl phthalate	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Hexachlorobenzene	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Hexachlorobutadiene	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Hexachlorocyclopentadiene	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Hexachloroethane	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Isophorone	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Nitrobenzene	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	N-Nitrosodi-n-propylamine	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	N-Nitrosodiphenylamine	9.30	7.00 U	7.00 UJ		ug/l	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Table of All Qualified Results

Test Method: BNASIM	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW11-SEP2020	N	2-Methylnaphthalene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Acenaphthene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Acenaphthylene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Anthracene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Benzo(a)anthracene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Benzo(a)pyrene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Benzo(b)fluoranthene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Benzo(g,h,i)perylene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Benzo(k)fluoranthene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Chrysene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Dibenz(a,h)anthracene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Fluoranthene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Fluorene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Indeno(1,2,3-c,d)pyrene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Naphthalene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Phenanthrene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW11-SEP2020	N	Pyrene	0.190	0.0930 U	0.0930 UJ		ug/l	I
NHFLA-MW15-SEP2020	N	Chrysene	0.190	0.0470 J	0.0930 U		ug/l	L
NHFLA-MW15-SEP2020	N	Pyrene	0.190	0.0550 J	0.0930 U		ug/l	L
NHFLA-MW8-SEP2020	N	Chrysene	0.190	0.0370 J	0.0930 U		ug/l	L
NHFLA-MW9BR-SEP2020	N	Chrysene	0.200	0.0400 J	0.0980 U		ug/l	L

Test Method: SW6020	Extraction Method: , Dissolved							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB21-SEP2020	EB	Aluminum	100	13.0 J	40.0 U		ug/l	L
NHFLA-EB21-SEP2020	EB	Calcium	110	110	110 U		ug/l	L
NHFLA-EB21-SEP2020	EB	Copper	3.00	1.40 J	2.00 U		ug/l	L
NHFLA-EB21-SEP2020	EB	Lead	1.00	0.170 J	0.500 U		ug/l	L
NHFLA-EB21-SEP2020	EB	Magnesium	100	17.0 J	80.0 U		ug/l	L
NHFLA-MW11-SEP2020	N	Copper	3.00	1.90 J	2.00 U		ug/l	L
NHFLA-MW11-SEP2020	N	Lead	1.00	0.190 J	0.500 U		ug/l	L
NHFLA-MW15-SEP2020	N	Aluminum	100	15.0 J	40.0 U		ug/l	L
NHFLA-MW15-SEP2020	N	Copper	3.00	2.58 J	3.00 U		ug/l	L
NHFLA-MW8-SEP2020	N	Copper	3.00	1.60 J	2.00 U		ug/l	L
NHFLA-MW8-SEP2020	N	Lead	1.00	0.170 J	0.500 U		ug/l	L
NHFLA-MW9BR-SEP2020	N	Aluminum	100	24.0 J	40.0 U		ug/l	L
NHFLA-MW9BR-SEP2020	N	Copper	3.00	2.58 J	3.00 U		ug/l	L
NHFLA-MW9BR-SEP2020	N	Lead	1.00	0.120 J	0.500 U		ug/l	L
NHFLA-MW9OB-SEP2020	N	Aluminum	100	12.0 J	40.0 U		ug/l	L
NHFLA-MW9OB-SEP2020	N	Copper	3.00	3.00 J	3.00 U		ug/l	L

Table of All Qualified Results

Test Method: SW6020 Extraction Method: SW3010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB21-SEP2020	EB	Aluminum	100	8.30 J	40.0 U		ug/l	L
NHFLA-EB21-SEP2020	EB	Copper	3.00	0.810 J	2.00 U		ug/l	L
NHFLA-EB21-SEP2020	EB	Calcium	100	42.0 J	80.0 U		ug/l	L
NHFLA-EB21-SEP2020	EB	Magnesium	100	11.0 J	80.0 U		ug/l	L
NHFLA-MW11-SEP2020	N	Beryllium	1.00	0.341 J	1.00 U		ug/l	L
NHFLA-MW11-SEP2020	N	Antimony	1.00	0.260 J	0.500 U		ug/l	L
NHFLA-MW11-SEP2020	N	Cadmium	1.00	0.0810 J	0.200 U		ug/l	L
NHFLA-MW11-SEP2020	N	Chromium	5.00	4.14 J	5.00 U		ug/l	L
NHFLA-MW11-SEP2020	N	Thallium	1.00	0.300 J	0.400 U		ug/l	L
NHFLA-MW15-SEP2020	N	Aluminum	100	51.3 J	100 U		ug/l	L
NHFLA-MW15-SEP2020	N	Copper	3.00	1.60 J	2.00 U		ug/l	L
NHFLA-MW15-SEP2020	N	Antimony	1.00	0.130 J	0.500 U		ug/l	L
NHFLA-MW15-SEP2020	N	Cobalt	1.00	0.400 J	1.00 U		ug/l	L
NHFLA-MW15-SEP2020	N	Thallium	1.00	0.120 J	0.400 U		ug/l	L
NHFLA-MW8-SEP2020	N	Beryllium	1.00	0.120 J	0.200 U		ug/l	L
NHFLA-MW8-SEP2020	N	Copper	3.00	1.50 J	2.00 U		ug/l	L
NHFLA-MW8-SEP2020	N	Cobalt	1.00	0.440 J	1.00 U		ug/l	L
NHFLA-MW8-SEP2020	N	Lead	1.00	0.180 J	0.500 U		ug/l	L
NHFLA-MW8-SEP2020	N	Thallium	1.00	0.0700 J	0.400 U		ug/l	L
NHFLA-MW9BR-SEP2020	N	Beryllium	1.00	0.0620 J	0.200 U		ug/l	L
NHFLA-MW9BR-SEP2020	N	Cobalt	1.00	0.290 J	0.300 U		ug/l	L
NHFLA-MW9BR-SEP2020	N	Lead	1.00	0.210 J	0.500 U		ug/l	L
NHFLA-MW9BR-SEP2020	N	Thallium	1.00	0.130 J	0.400 U		ug/l	L
NHFLA-MW9OB-SEP2020	N	Aluminum	100	61.6 J	100 U		ug/l	L
NHFLA-MW9OB-SEP2020	N	Copper	3.00	2.68 J	3.00 U		ug/l	L
NHFLA-MW9OB-SEP2020	N	Antimony	1.00	0.290 J	0.500 U		ug/l	L
NHFLA-MW9OB-SEP2020	N	Cadmium	1.00	0.0380 J	0.200 U		ug/l	L
NHFLA-MW9OB-SEP2020	N	Chromium	5.00	0.330 J	4.00 U		ug/l	L
NHFLA-MW9OB-SEP2020	N	Lead	1.00	0.0890 J	0.500 U		ug/l	L
NHFLA-MW9OB-SEP2020	N	Thallium	1.00	0.350 J	0.400 U		ug/l	L

Test Method: SW7196 Extraction Method: NONE

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB21-SEP2020	EB	Chromium, Hexavalent	0.0250	0.00650 J	0.0125 X		mg/l	L/H1
NHFLA-MW11-SEP2020	N	Chromium, Hexavalent	0.0250	0.00880 J	0.0125 X		mg/l	L/H1
NHFLA-MW15-SEP2020	N	Chromium, Hexavalent	0.0250	0.00780 J	0.0125 X		mg/l	L/H1
NHFLA-MW8-SEP2020	N	Chromium, Hexavalent	0.0250	0.00750 J	0.0125 X		mg/l	L/H1/M
NHFLA-MW9BR-SEP2020	N	Chromium, Hexavalent	0.0250	0.0100 J	0.0125 X		mg/l	L/H1
NHFLA-MW9OB-SEP2020	N	Chromium, Hexavalent	0.0250	0.00840 J	0.0125 X		mg/l	L/H1

Test Method: SW8260 Extraction Method: SW5030

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW11-SEP2020	N	Acetone	5.00	3.60 J	3.60 J		ug/l	I/TR

Table of All Qualified Results

Test Method: SW8260 Extraction Method: SW5030								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW11-SEP2020	N	Cyclohexane	1.00	2.40	2.40 J		ug/l	I
NHFLA-MW11-SEP2020	N	Methylcyclohexane	1.00	6.10	6.10 J		ug/l	I
NHFLA-MW11-SEP2020	N	Methylene chloride	5.00	1.70 J	1.70 J		ug/l	I/TR
NHFLA-MW9BR-SEP2020	N	Acetone	5.00	4.10 J	4.10 J	+	ug/l	I/TR
NHFLA-MW9BR-SEP2020	N	Benzene	1.00	11.0	11.0 J	+	ug/l	I
NHFLA-MW9BR-SEP2020	N	Cyclohexane	1.00	11.0	11.0 J	+	ug/l	I
NHFLA-MW9BR-SEP2020	N	Ethylbenzene	1.00	2.90	2.90 J	+	ug/l	I
NHFLA-MW9BR-SEP2020	N	Isopropylbenzene (Cumene)	1.00	0.270 J	0.270 J	+	ug/l	I/TR
NHFLA-MW9BR-SEP2020	N	m,p-Xylene	2.00	7.10	7.10 J	+	ug/l	I
NHFLA-MW9BR-SEP2020	N	Methylcyclohexane	1.00	4.30	4.30 J	+	ug/l	I
NHFLA-MW9BR-SEP2020	N	o-Xylene	1.00	2.60	2.60 J	+	ug/l	I
NHFLA-MW9BR-SEP2020	N	Toluene	1.00	13.0	13.0 J	+	ug/l	I
NHFLA-MW9OB-SEP2020	N	Methylene chloride	5.00	2.00 J	2.00 J		ug/l	I/TR

Test Method: SW8270 Extraction Method: SW3510								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB21-SEP2020	EB	2,3,4,6-Tetrachlorophenol	9.40	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB21-SEP2020	EB	2,4,5-Trichlorophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB21-SEP2020	EB	2,4,6-Trichlorophenol	9.40	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB21-SEP2020	EB	2,4-Dichlorophenol	9.40	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB21-SEP2020	EB	2,4-Dimethylphenol	9.40	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB21-SEP2020	EB	2,4-Dinitrophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB21-SEP2020	EB	2-Chlorophenol	9.40	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB21-SEP2020	EB	2-Methylphenol (o-Cresol)	9.40	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB21-SEP2020	EB	2-Nitrophenol	9.40	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB21-SEP2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB21-SEP2020	EB	4-Chloro-3-methylphenol	9.40	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB21-SEP2020	EB	4-Nitrophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB21-SEP2020	EB	Cresols, m- & p-	9.40	7.10 U	7.10 UJ		ug/l	I
NHFLA-EB21-SEP2020	EB	Pentachlorophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-EB21-SEP2020	EB	Phenol	9.40	7.10 U	7.10 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	1,2,4,5-Tetrachlorobenzene	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	1,4-Dioxane (p-Dioxane)	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	2,2'-Oxybis(1-chloropropane)	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	2,4-Dinitrotoluene	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	2,6-Dinitrotoluene	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	2-Chloronaphthalene	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	2-Nitroaniline	23.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	3,3'-Dichlorobenzidine	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	3-Nitroaniline	23.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	4-Bromophenyl phenyl ether	9.30	7.00 U	7.00 UJ		ug/l	I

Table of All Qualified Results

Test Method: SW8270	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW8-SEP2020	N	4-Chloroaniline	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	4-Chlorophenyl phenyl ether	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	4-Nitroaniline	23.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Acetophenone	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Atrazine	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Benzaldehyde	9.30	7.00 UL	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Benzyl butyl phthalate	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Biphenyl (Diphenyl)	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Bis(2-chloroethoxy) methane	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Bis(2-ethylhexyl) phthalate	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Caprolactam	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Carbazole	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Dibenzofuran	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Diethyl phthalate	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Dimethyl phthalate	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Di-n-butyl phthalate	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	di-n-Octyl phthalate	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Hexachlorobenzene	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Hexachlorobutadiene	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Hexachlorocyclopentadiene	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Hexachloroethane	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Isophorone	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	Nitrobenzene	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	N-Nitrosodi-n-propylamine	9.30	7.00 U	7.00 UJ		ug/l	I
NHFLA-MW8-SEP2020	N	N-Nitrosodiphenylamine	9.30	7.00 U	7.00 UJ		ug/l	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW11-SEP2020	N	2-Methylnaphthalene	0.190	0.0930 U	0.0930 U	0.0930 UJ	I
NHFLA-MW11-SEP2020	N	Acenaphthene	0.190	0.0930 U	0.0930 U	0.0930 UJ	I
NHFLA-MW11-SEP2020	N	Acenaphthylene	0.190	0.0930 U	0.0930 U	0.0930 UJ	I
NHFLA-MW11-SEP2020	N	Anthracene	0.190	0.0930 U	0.0930 U	0.0930 UJ	I
NHFLA-MW11-SEP2020	N	Benzo(a)anthracene	0.190	0.0930 U	0.0930 U	0.0930 UJ	I
NHFLA-MW11-SEP2020	N	Benzo(a)pyrene	0.190	0.0930 U	0.0930 U	0.0930 UJ	I
NHFLA-MW11-SEP2020	N	Benzo(b)fluoranthene	0.190	0.0930 U	0.0930 U	0.0930 UJ	I
NHFLA-MW11-SEP2020	N	Benzo(g,h,i)perylene	0.190	0.0930 U	0.0930 U	0.0930 UJ	I
NHFLA-MW11-SEP2020	N	Benzo(k)fluoranthene	0.190	0.0930 U	0.0930 U	0.0930 UJ	I
NHFLA-MW11-SEP2020	N	Chrysene	0.190	0.0930 U	0.0930 U	0.0930 UJ	I
NHFLA-MW11-SEP2020	N	Dibenz(a,h)anthracene	0.190	0.0930 U	0.0930 U	0.0930 UJ	I
NHFLA-MW11-SEP2020	N	Fluoranthene	0.190	0.0930 U	0.0930 U	0.0930 UJ	I
NHFLA-MW11-SEP2020	N	Fluorene	0.190	0.0930 U	0.0930 U	0.0930 UJ	I
NHFLA-MW11-SEP2020	N	Indeno(1,2,3-c,d)pyrene	0.190	0.0930 U	0.0930 U	0.0930 UJ	I
NHFLA-MW11-SEP2020	N	Naphthalene	0.190	0.0930 U	0.0930 U	0.0930 UJ	I
NHFLA-MW11-SEP2020	N	Phenanthrene	0.190	0.0930 U	0.0930 U	0.0930 UJ	I
NHFLA-MW11-SEP2020	N	Pyrene	0.190	0.0930 U	0.0930 U	0.0930 UJ	I

Modified Qualifiers for test method SW6020, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB21-SEP2020	EB	Aluminum	100	13.0 J	40.0 J	40.0 U	L
NHFLA-EB21-SEP2020	EB	Calcium	110	110	110	110 U	L
NHFLA-EB21-SEP2020	EB	Copper	3.00	1.40 J	2.00 J	2.00 U	L
NHFLA-EB21-SEP2020	EB	Lead	1.00	0.170 J	0.500 J	0.500 U	L
NHFLA-EB21-SEP2020	EB	Magnesium	100	17.0 J	80.0 J	80.0 U	L
NHFLA-MW11-SEP2020	N	Antimony	1.00	0.180 J	0.500 J	0.500 U	L
NHFLA-MW11-SEP2020	N	Thallium	1.00	0.0650 J	0.400 J	0.400 U	L
NHFLA-MW15-SEP2020	N	Aluminum	100	15.0 J	40.0 J	40.0 U	L
NHFLA-MW15-SEP2020	N	Antimony	1.00	0.100 J	0.500 J	0.500 U	L
NHFLA-MW15-SEP2020	N	Cobalt	1.00	0.350 J	1.00 J	1.00 U	L
NHFLA-MW15-SEP2020	N	Copper	3.00	2.58 J	3.00 J	3.00 U	L
NHFLA-MW15-SEP2020	N	Thallium	1.00	0.100 J	0.400 J	0.400 U	L
NHFLA-MW8-SEP2020	N	Beryllium	1.00	0.0930 J	0.200 J	0.200 U	L
NHFLA-MW8-SEP2020	N	Cobalt	1.00	0.380 J	1.00 J	1.00 U	L
NHFLA-MW8-SEP2020	N	Copper	3.00	1.60 J	2.00 J	2.00 U	L
NHFLA-MW8-SEP2020	N	Lead	1.00	0.170 J	0.500 J	0.500 U	L
NHFLA-MW9BR-SEP2020	N	Chromium	5.00	0.300 J	4.00 J	4.00 U	L
NHFLA-MW9BR-SEP2020	N	Cobalt	1.00	0.140 J	0.300 J	0.300 U	L
NHFLA-MW9BR-SEP2020	N	Thallium	1.00	0.0870 J	0.400 J	0.400 U	L
NHFLA-MW9OB-SEP2020	N	Antimony	1.00	0.250 J	0.500 J	0.500 U	L
NHFLA-MW9OB-SEP2020	N	Chromium	5.00	0.260 J	4.00 J	4.00 U	L

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW6020, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW9OB-SEP2020	N	Thallium	1.00	0.340 J	0.400 J	0.400 U	L

Modified Qualifiers for test method SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW8-SEP2020	N	Chromium, Hexavalent	0.0250	0.00750 J	0.0125 X	0.0125 X	L/H1/M

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB21-SEP2020	EB	1,1,1-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	1,1,2-Trichloro-1,2,2-trifluoroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	1,1,2-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	1,1-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	1,1-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	1,2,3-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	1,2,4-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	1,2-Dibromo-3-chloropropane	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-EB21-SEP2020	EB	1,2-Dibromoethane (EDB)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	1,2-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	1,2-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	1,2-Dichloropropane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	1,3-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	1,4-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	2-Butanone (MEK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-EB21-SEP2020	EB	2-Hexanone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-EB21-SEP2020	EB	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-EB21-SEP2020	EB	Acetone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-EB21-SEP2020	EB	Benzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	Bromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	Bromodichloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	Bromoform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	Bromomethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-EB21-SEP2020	EB	Carbon disulfide	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	Carbon tetrachloride	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	Chlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	Chloroethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-EB21-SEP2020	EB	Chloroform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	Chloromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-EB21-SEP2020	EB	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB21-SEP2020	EB	Cyclohexane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	Dibromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	Dichlorodifluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-EB21-SEP2020	EB	Ethylbenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	Isopropylbenzene (Cumene)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	m,p-Xylene	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-EB21-SEP2020	EB	Methyl acetate	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-EB21-SEP2020	EB	Methyl tert-butyl ether (MTBE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	Methylcyclohexane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	Methylene chloride	5.00	1.30 J	1.30 J	1.30 J	TR
NHFLA-EB21-SEP2020	EB	o-Xylene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	Styrene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	Toluene	1.00	0.520 J	0.520 J	0.520 J	TR
NHFLA-EB21-SEP2020	EB	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	Trichloroethene (TCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-EB21-SEP2020	EB	Trichlorofluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-EB21-SEP2020	EB	Vinyl chloride	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW11-SEP2020	N	Acetone	5.00	3.60 J	3.60 J	3.60 J	I/TR
NHFLA-MW11-SEP2020	N	Cyclohexane	1.00	2.40	2.40	2.40 J	I
NHFLA-MW11-SEP2020	N	Methylcyclohexane	1.00	6.10	6.10	6.10 J	I
NHFLA-MW11-SEP2020	N	Methylene chloride	5.00	1.70 J	1.70 J	1.70 J	I/TR
NHFLA-MW15-SEP2020	N	1,1,1-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	1,1,2-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	1,1-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	1,1-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	1,2,3-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	1,2,4-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	1,2-Dibromo-3-chloropropane	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW15-SEP2020	N	1,2-Dibromoethane (EDB)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	1,2-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	1,2-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	1,2-Dichloropropane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	1,3-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	1,4-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	2-Butanone (MEK)	5.00	2.50 U	2.50 UJ	2.50 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW15-SEP2020	N	2-Hexanone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW15-SEP2020	N	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW15-SEP2020	N	Acetone	5.00	2.90 J	2.90 J	2.90 J	TR
NHFLA-MW15-SEP2020	N	Benzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	Bromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	Bromodichloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	Bromoform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	Bromomethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW15-SEP2020	N	Carbon disulfide	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	Carbon tetrachloride	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	Chlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	Chloroethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW15-SEP2020	N	Chloroform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	Chloromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW15-SEP2020	N	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	Cyclohexane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	Dibromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	Dichlorodifluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW15-SEP2020	N	Ethylbenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	Isopropylbenzene (Cumene)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	m,p-Xylene	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW15-SEP2020	N	Methyl acetate	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW15-SEP2020	N	Methyl tert-butyl ether (MTBE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	Methylcyclohexane	1.00	0.780 J	0.780 J	0.780 J	TR
NHFLA-MW15-SEP2020	N	Methylene chloride	5.00	1.90 J	1.90 J	1.90 J	TR
NHFLA-MW15-SEP2020	N	o-Xylene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	Styrene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	Toluene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	Trichloroethene (TCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-SEP2020	N	Trichlorofluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW15-SEP2020	N	Vinyl chloride	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW8-SEP2020	N	1,1,1-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	1,1,2-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW8-SEP2020	N	1,1-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	1,1-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	1,2,3-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	1,2,4-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	1,2-Dibromo-3-chloropropane	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW8-SEP2020	N	1,2-Dibromoethane (EDB)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	1,2-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	1,2-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	1,2-Dichloropropane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	1,3-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	1,4-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	2-Butanone (MEK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW8-SEP2020	N	2-Hexanone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW8-SEP2020	N	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW8-SEP2020	N	Acetone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW8-SEP2020	N	Benzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	Bromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	Bromodichloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	Bromoform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	Bromomethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW8-SEP2020	N	Carbon disulfide	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	Carbon tetrachloride	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	Chlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	Chloroethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW8-SEP2020	N	Chloroform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	Chloromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW8-SEP2020	N	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	Cyclohexane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	Dibromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	Dichlorodifluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW8-SEP2020	N	Ethylbenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	Isopropylbenzene (Cumene)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	m,p-Xylene	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW8-SEP2020	N	Methyl acetate	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW8-SEP2020	N	Methyl tert-butyl ether (MTBE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	Methylcyclohexane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	Methylene chloride	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW8-SEP2020	N	o-Xylene	1.00	0.500 U	0.500 UJ	0.500 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW8-SEP2020	N	Styrene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	Toluene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	Trichloroethene (TCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-SEP2020	N	Trichlorofluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW8-SEP2020	N	Vinyl chloride	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW9BR-SEP2020	N	1,1,1-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-SEP2020	N	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-SEP2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-SEP2020	N	1,1,2-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-SEP2020	N	1,1-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-SEP2020	N	1,1-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-SEP2020	N	1,2,3-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-SEP2020	N	1,2,4-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-SEP2020	N	1,2-Dibromo-3-chloropropane	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW9BR-SEP2020	N	1,2-Dibromoethane (EDB)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-SEP2020	N	1,2-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-SEP2020	N	1,2-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-SEP2020	N	1,2-Dichloropropane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-SEP2020	N	1,3-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-SEP2020	N	1,4-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-SEP2020	N	2-Butanone (MEK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW9BR-SEP2020	N	2-Hexanone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW9BR-SEP2020	N	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW9BR-SEP2020	N	Acetone	5.00	4.10 J	4.10 J	4.10 J	I/TR
NHFLA-MW9BR-SEP2020	N	Benzene	1.00	11.0	11.0 J	11.0 J	I
NHFLA-MW9BR-SEP2020	N	Bromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-SEP2020	N	Bromodichloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-SEP2020	N	Bromoform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-SEP2020	N	Bromomethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW9BR-SEP2020	N	Carbon disulfide	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-SEP2020	N	Carbon tetrachloride	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-SEP2020	N	Chlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-SEP2020	N	Chloroethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW9BR-SEP2020	N	Chloroform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-SEP2020	N	Chloromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW9BR-SEP2020	N	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-SEP2020	N	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW9BR-SEP2020	N	Cyclohexane	1.00	11.0	11.0 J	11.0 J	I
NHFLA-MW9BR-SEP2020	N	Dibromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-SEP2020	N	Dichlorodifluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW9BR-SEP2020	N	Ethylbenzene	1.00	2.90	2.90 J	2.90 J	I
NHFLA-MW9BR-SEP2020	N	Isopropylbenzene (Cumene)	1.00	0.270 J	0.270 J	0.270 J	I/TR
NHFLA-MW9BR-SEP2020	N	m,p-Xylene	2.00	7.10	7.10 J	7.10 J	I
NHFLA-MW9BR-SEP2020	N	Methyl acetate	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW9BR-SEP2020	N	Methyl tert-butyl ether (MTBE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-SEP2020	N	Methylcyclohexane	1.00	4.30	4.30 J	4.30 J	I
NHFLA-MW9BR-SEP2020	N	Methylene chloride	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW9BR-SEP2020	N	o-Xylene	1.00	2.60	2.60 J	2.60 J	I
NHFLA-MW9BR-SEP2020	N	Styrene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-SEP2020	N	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-SEP2020	N	Toluene	1.00	13.0	13.0 J	13.0 J	I
NHFLA-MW9BR-SEP2020	N	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-SEP2020	N	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-SEP2020	N	Trichloroethene (TCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-SEP2020	N	Trichlorofluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW9BR-SEP2020	N	Vinyl chloride	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW9OB-SEP2020	N	1,1,1-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	1,1,2-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	1,1-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	1,1-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	1,2,3-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	1,2,4-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	1,2-Dibromo-3-chloropropane	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW9OB-SEP2020	N	1,2-Dibromoethane (EDB)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	1,2-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	1,2-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	1,2-Dichloropropane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	1,3-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	1,4-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	2-Butanone (MEK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW9OB-SEP2020	N	2-Hexanone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW9OB-SEP2020	N	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW9OB-SEP2020	N	Acetone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW9OB-SEP2020	N	Benzene	1.00	0.500 U	0.500 UJ	0.500 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW9OB-SEP2020	N	Bromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	Bromodichloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	Bromoform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	Bromomethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW9OB-SEP2020	N	Carbon disulfide	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	Carbon tetrachloride	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	Chlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	Chloroethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW9OB-SEP2020	N	Chloroform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	Chloromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW9OB-SEP2020	N	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	Cyclohexane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	Dibromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	Dichlorodifluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW9OB-SEP2020	N	Ethylbenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	Isopropylbenzene (Cumene)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	m,p-Xylene	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW9OB-SEP2020	N	Methyl acetate	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW9OB-SEP2020	N	Methyl tert-butyl ether (MTBE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	Methylcyclohexane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	Methylene chloride	5.00	2.00 J	2.00 J	2.00 J	I/TR
NHFLA-MW9OB-SEP2020	N	o-Xylene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	Styrene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	Toluene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	Trichloroethene (TCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-SEP2020	N	Trichlorofluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW9OB-SEP2020	N	Vinyl chloride	2.00	1.00 U	1.00 UJ	1.00 U	

Modified Qualifiers for test method SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB21-SEP2020	EB	2,3,4,6-Tetrachlorophenol	9.40	7.10 U	7.10 U	7.10 UJ	I
NHFLA-EB21-SEP2020	EB	2,4,5-Trichlorophenol	24.0	18.0 U	18.0 U	18.0 UJ	I
NHFLA-EB21-SEP2020	EB	2,4,6-Trichlorophenol	9.40	7.10 U	7.10 U	7.10 UJ	I
NHFLA-EB21-SEP2020	EB	2,4-Dichlorophenol	9.40	7.10 U	7.10 U	7.10 UJ	I
NHFLA-EB21-SEP2020	EB	2,4-Dimethylphenol	9.40	7.10 U	7.10 U	7.10 UJ	I
NHFLA-EB21-SEP2020	EB	2,4-Dinitrophenol	24.0	18.0 U	18.0 U	18.0 UJ	I
NHFLA-EB21-SEP2020	EB	2-Chlorophenol	9.40	7.10 U	7.10 U	7.10 UJ	I

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB21-SEP2020	EB	2-Methylphenol (o-Cresol)	9.40	7.10 U	7.10 U	7.10 UJ	I
NHFLA-EB21-SEP2020	EB	2-Nitrophenol	9.40	7.10 U	7.10 U	7.10 UJ	I
NHFLA-EB21-SEP2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 U	18.0 U	18.0 UJ	I
NHFLA-EB21-SEP2020	EB	4-Chloro-3-methylphenol	9.40	7.10 U	7.10 U	7.10 UJ	I
NHFLA-EB21-SEP2020	EB	4-Nitrophenol	24.0	18.0 U	18.0 U	18.0 UJ	I
NHFLA-EB21-SEP2020	EB	Cresols, m- & p-	9.40	7.10 U	7.10 U	7.10 UJ	I
NHFLA-EB21-SEP2020	EB	Pentachlorophenol	24.0	18.0 U	18.0 U	18.0 UJ	I
NHFLA-EB21-SEP2020	EB	Phenol	9.40	7.10 U	7.10 U	7.10 UJ	I
NHFLA-MW8-SEP2020	N	1,2,4,5-Tetrachlorobenzene	9.30	7.00 U	7.00 U	7.00 UJ	I
NHFLA-MW8-SEP2020	N	1,4-Dioxane (p-Dioxane)	9.30	7.00 U	7.00 U	7.00 UJ	I
NHFLA-MW8-SEP2020	N	2,2'-Oxybis(1-chloropropane)	9.30	7.00 U	7.00 U	7.00 UJ	I
NHFLA-MW8-SEP2020	N	2,4-Dinitrotoluene	9.30	7.00 U	7.00 U	7.00 UJ	I
NHFLA-MW8-SEP2020	N	2,6-Dinitrotoluene	9.30	7.00 U	7.00 U	7.00 UJ	I
NHFLA-MW8-SEP2020	N	2-Chloronaphthalene	9.30	7.00 U	7.00 U	7.00 UJ	I
NHFLA-MW8-SEP2020	N	2-Nitroaniline	23.0	18.0 U	18.0 U	18.0 UJ	I
NHFLA-MW8-SEP2020	N	3,3'-Dichlorobenzidine	9.30	7.00 U	7.00 U	7.00 UJ	I
NHFLA-MW8-SEP2020	N	3-Nitroaniline	23.0	18.0 U	18.0 U	18.0 UJ	I
NHFLA-MW8-SEP2020	N	4-Bromophenyl phenyl ether	9.30	7.00 U	7.00 U	7.00 UJ	I
NHFLA-MW8-SEP2020	N	4-Chloroaniline	9.30	7.00 U	7.00 U	7.00 UJ	I
NHFLA-MW8-SEP2020	N	4-Chlorophenyl phenyl ether	9.30	7.00 U	7.00 U	7.00 UJ	I
NHFLA-MW8-SEP2020	N	4-Nitroaniline	23.0	18.0 U	18.0 U	18.0 UJ	I
NHFLA-MW8-SEP2020	N	Acetophenone	9.30	7.00 U	7.00 U	7.00 UJ	I
NHFLA-MW8-SEP2020	N	Atrazine	9.30	7.00 U	7.00 U	7.00 UJ	I
NHFLA-MW8-SEP2020	N	Benzaldehyde	9.30	7.00 UL	7.00 U	7.00 UJ	I
NHFLA-MW8-SEP2020	N	Benzyl butyl phthalate	9.30	7.00 U	7.00 U	7.00 UJ	I
NHFLA-MW8-SEP2020	N	Biphenyl (Diphenyl)	9.30	7.00 U	7.00 U	7.00 UJ	I
NHFLA-MW8-SEP2020	N	Bis(2-chloroethoxy) methane	9.30	7.00 U	7.00 U	7.00 UJ	I
NHFLA-MW8-SEP2020	N	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.30	7.00 U	7.00 U	7.00 UJ	I
NHFLA-MW8-SEP2020	N	Bis(2-ethylhexyl) phthalate	9.30	7.00 U	7.00 U	7.00 UJ	I
NHFLA-MW8-SEP2020	N	Caprolactam	9.30	7.00 U	7.00 U	7.00 UJ	I
NHFLA-MW8-SEP2020	N	Carbazole	9.30	7.00 U	7.00 U	7.00 UJ	I
NHFLA-MW8-SEP2020	N	Dibenzofuran	9.30	7.00 U	7.00 U	7.00 UJ	I
NHFLA-MW8-SEP2020	N	Diethyl phthalate	9.30	7.00 U	7.00 U	7.00 UJ	I
NHFLA-MW8-SEP2020	N	Dimethyl phthalate	9.30	7.00 U	7.00 U	7.00 UJ	I
NHFLA-MW8-SEP2020	N	Di-n-butyl phthalate	9.30	7.00 U	7.00 U	7.00 UJ	I
NHFLA-MW8-SEP2020	N	di-n-Octyl phthalate	9.30	7.00 U	7.00 U	7.00 UJ	I
NHFLA-MW8-SEP2020	N	Hexachlorobenzene	9.30	7.00 U	7.00 U	7.00 UJ	I
NHFLA-MW8-SEP2020	N	Hexachlorobutadiene	9.30	7.00 U	7.00 U	7.00 UJ	I

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW8-SEP2020	N	Hexachlorocyclopentadiene	9.30	7.00 U	7.00 U	7.00 UJ	I
NHFLA-MW8-SEP2020	N	Hexachloroethane	9.30	7.00 U	7.00 U	7.00 UJ	I
NHFLA-MW8-SEP2020	N	Isophorone	9.30	7.00 U	7.00 U	7.00 UJ	I
NHFLA-MW8-SEP2020	N	Nitrobenzene	9.30	7.00 U	7.00 U	7.00 UJ	I
NHFLA-MW8-SEP2020	N	N-Nitrosodi-n-propylamine	9.30	7.00 U	7.00 U	7.00 UJ	I
NHFLA-MW8-SEP2020	N	N-Nitrosodiphenylamine	9.30	7.00 U	7.00 U	7.00 UJ	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

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Rejected Results

Test Method: SW7196	Extraction Method: NONE	Leach Method: NONE							
FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-EB21-SEP2020	SN8108-5	W	EB	Chromium, Hexavalent	0.0250	0.00650 J	0.0125 X	mg/l	L/H1
NHFLA-MW11-SEP2020	SN8108-11	W	N	Chromium, Hexavalent	0.0250	0.00880 J	0.0125 X	mg/l	L/H1
NHFLA-MW15-SEP2020	SN8108-3	W	N	Chromium, Hexavalent	0.0250	0.00780 J	0.0125 X	mg/l	L/H1
NHFLA-MW8-SEP2020	SN8108-1	W	N	Chromium, Hexavalent	0.0250	0.00750 J	0.0125 X	mg/l	L/H1/M
NHFLA-MW9BR-SEP2020	SN8108-13	W	N	Chromium, Hexavalent	0.0250	0.0100 J	0.0125 X	mg/l	L/H1
NHFLA-MW9OB-SEP2020	SN8108-7	W	N	Chromium, Hexavalent	0.0250	0.00840 J	0.0125 X	mg/l	L/H1

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Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
A2340B/METHOD/NONE	6	6

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
A2340B/METHOD/NONE	NHFLA-EB21-SEP2020	EB	5	Hardness (as CaCO3)	150 J	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW11-SEP2020	N	5	Hardness (as CaCO3)	435000	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW15-SEP2020	N	5	Hardness (as CaCO3)	156000	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW8-SEP2020	N	5	Hardness (as CaCO3)	96200	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW9BR-SEP2020	N	5	Hardness (as CaCO3)	367000	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW9OB-SEP2020	N	5	Hardness (as CaCO3)	287000	85.0	530	650	5	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
C	LCS Recovery
H1	Test Hold Time
I	Surrogate recovery outside project limits.
L	Lab Blank
M	MS Recovery
TR	Trace Level Detect
V	Equipment Blank

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

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Review Questions

Method: A2340B

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?			•	no batch QC for hardness test.
Were target analytes in the method blank less than MDL?			•	
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?			•	
Were LCS/LCSD recoveries within project acceptance limits?			•	
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

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Review Questions

Method: BNASIM

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Sample -011 1 of 3 surrogates biased low. Sample -011 results all qualified estimated with UJ/I flags/qualifiers. NOTE: this outlier was not qualified in lab report or auto-flagged in FUDSchem so had to be manually updated in database.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG287251-1 detections below LOQ for pyrene and chrysene. Field samples -003 pyrene and-001, -003, -013 chrysene results were qualified as non-detect at the LOD with U/L flags/reason codes.
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only.
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Calibration outliers as noted in SDG case narrative were not addressed as part of this stage 2A review.
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

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Review Questions

Method: SW6020

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch PBWNI30IMW2 - detections above LOQ - barium and below LOQ - aluminum, antimony, beryllium, cadmium, calcium, chromium, cobalt, copper, lead, magnesium, nickel, thallium. U/L flag/reason codes assigned as noted in method blank qualifier summary table for samples -007, -008, -011, -013, -014. Flags edited in database for samples as follows: sample -008 - aluminum, chromium, thallium, sample -012 - antimony, beryllium, thallium, sample -014 - chromium, cobalt.QC batch NJ12IMW2 - detection below LOQ - barium - no qualifications required.QC batch NI30IMW1 - detections below LOQ - aluminum, antimony, beryllium, cadmium calcium, cobalt, copper, lead, magnesium thallium. U/L flags/reason codes assigned based on these method blank detections as noted in method blank qualifier summary table. Flags in database edited for sample results as follows: Sample -002 - barium, cobalt, copper, lead, sample -004 - aluminum, antimony, cobalt, copper, thallium, sample -006 - aluminum, antimony, calcium, copper, lead. NOTE: Filter blank sample -018 treated as QC sample and not qualified based on method blank detections.
Were target analytes in the field blank less than MDL?		•		Lab blank (filter blank) sample -018 detections (aluminum, barium, calcium, copper, lead, magnesium, manganese, sodium) were associated with dissolved metals field result qualifications that are already flagged due to method blank detections noted above. Qualified results table for lab blank also represents these method blank qualified results.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	

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Review Questions

Method: SW6020

Review Questions	Yes	No	NA	Comment
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

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Review Questions

Method: SW7196

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?		•		NOTE sample MW11 hexavalent chromium test specific container missing at login.
Were holding times met?		•		All sample testing performed in 3 days which was outside of holding time reject criteria so all hexavalent chromium results were qualified as unusable with X/H1 flags/reason codes.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG287432 blank detection below LOQ. All samples qualified as non-detect at LOQ with L reason codes (results qualified X flags also as noted above).
Were target analytes in the field blank less than MDL?		•		Equipment blank detection below LOQ.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -001 MS biased low at 2%. MS re-analyzed at 5X dilution with recovery of 61% and still biased low (according to lab submittal case narrative - no re-analysis data available in database or in QC summary section of report). Sample -001 result already qualified rejected due to HTQ outlier so M reason code added only.
Was the MS/MSD RPD within project acceptance limits?			•	MS only.
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?	•			All hexavalent chromium results were qualified as unusable with X flags.

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Review Questions

Method: SW7470

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Automated Data Review Detail Report for SN8108
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Review Questions

Method: SW8260

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?		•		Initial analysis all within holding time. Re-analysis of samples -011, -013 due to surrogate recovery outliers were performed outside of holding time but re-analysis data was not used as final data so was not flagged in database.
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		One of four surrogate recoveries biased high for samples -001, -007, -011, -013, -015 so all detections in these samples were qualified with J/I flags/reason codes. Non-detect results did not require qualification.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG288040 detection below LOQ for carbon disulfide did not result in qualifications for field sample data.
Were target analytes in the field blank less than MDL?		•		Detections in equipment blank below LOQ.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only.
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW8270

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		One of 3 base-neutral fraction surrogates biased low in sample -001 and 1 of 3 acid fraction surrogates biased low in sample -005. Associated target analytes qualified estimated with J/UJ flags and I reason codes as noted in GCMS SVOC surrogate recovery outlier summary table.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?		•		BIS-2-ETHYLHEXYLPHTHALATE detection below LOQ.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?		•		QC WG287250-2 high bias for benzaldehyde did not require qualification of field sample data.
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Calibration outliers as noted in SDG case narrative were not addressed as part of this stage 2A review.
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling
SDG:	SN8174
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Katahdin Analytical Services, Westbrook, ME
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist January
Date Submitted:	January 27, 2021 - resubmitted February 11, 2021 - LOD/LOQ clarification - 8260.

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	A2340B	BNASIM	SW6020	SW6020 - Dissolved	SW7196	SW7470	SW7470 - Dissolved	SW8260	SW8270
NHFLA-EB22-SEP2020	SN8174-7	Water	Equipment Blank/EB	X	X	X		X	X		X	X
NHFLA-EB22-SEP2020	SN8174-8	Water	Equipment Blank/EB				X			X		
NHFLA-MW4BR-SEP2020	SN8174-3	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW4BR-SEP2020	SN8174-4	Water	Field Sample/N				X			X		
NHFLA-MW4OB-SEP2020	SN8174-1	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW4OB-SEP2020	SN8174-2	Water	Field Sample/N				X			X		
NHFLA-MW5BR-SEP2020	SN8174-5	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW5BR-SEP2020	SN8174-6	Water	Field Sample/N				X			X		
NHFLA-MW7OB-SEP2020	SN8174-10	Water	Field Sample/N				X			X		
NHFLA-MW7OB-SEP2020	SN8174-9	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-TB28-SEP2020	SN8174-11	Water	Trip Blank/TB								X	
NHFLA-TB29-SEP2020	SN8174-12	Water	Trip Blank/TB								X	
NHFLA-TB30-SEP2020	SN8174-13	Water	Trip Blank/TB								X	

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Katahdin Analytical Services, Westbrook, ME and were reported under sample delivery group (SDG) SN8174. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Extracted Internal Standard
- Lab Blank
- LCS Recovery
- MS Recovery
- MS RPD
- Prep Hold Time
- Surrogate
- Test Hold Time
- Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 250 results (25.30%) out of the 988 results (sample and field QC samples) reported are qualified based on review and 30 results (3.04%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Analytical Method	Data Reviewer Comment
A2340B	No additional comments; see Checklist for detail.
BNASIM	No additional comments; see Checklist for detail.
SW6020	No additional comments; see Checklist for detail.
SW7196	No additional comments; see Checklist for detail.
SW7470	No additional comments; see Checklist for detail.
SW8260	No additional comments; see Checklist for detail.
SW8270	No additional comments; see Checklist for detail.

Jim Tomalia

February 11, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method BNASIM, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB22-SEP2020 (EB)/ SN8174-7	2-Methylnaphthalene	0.1000	< 0.072	< 0.19	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW4OB-SEP2020	N	2-Methylnaphthalene	0.190	0.200	0.200 J	+	ug/l	V

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method BNASIM, MS RPD

The objective of matrix spikes/matrix spike duplicates (MS/MSD) RPD analysis is to demonstrate acceptable method precision by the laboratory at the time of analysis. MS/MSD analyses are also performed to generate data that determines the long-term precision of the analytical method on various matrices. Non-homogenous samples can impact the apparent method precision. Summary forms were evaluated and compared to electronic data deliverables. Matrix spikes/matrix spike duplicates results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS8-SEP2020 (SD)/ WG287485-4	Benzo (g,h,i)perylene	20.69	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS8-SEP2020 (SD)/ WG287485-4	Phenanthrene	20.69	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS8-SEP2020 (SD)/ WG287485-4	Benzo(a)pyrene	22.22	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS8-SEP2020 (SD)/ WG287485-4	Dibenz (a,h)anthracene	22.22	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS8-SEP2020 (SD)/ WG287485-4	2-Methylnaphthalene	22.22	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS8-SEP2020 (SD)/ WG287485-4	Naphthalene	22.22	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS8-SEP2020 (SD)/ WG287485-4	Indeno(1,2,3-c,d)pyrene	28.57	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS8-SEP2020 (SD)/ WG287485-4	Fluoranthene	30.30	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS8-SEP2020 (SD)/ WG287485-4	Anthracene	34.48	< 20	< 20	rpd	J/UJ	D	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS RPD for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW7OB-SEP2020	N	2-Methylnaphthalene	0.190	0.0930 U	0.0930 UJ		ug/l	D
NHFLA-MW7OB-SEP2020	N	Anthracene	0.190	0.0930 U	0.0930 UJ		ug/l	D
NHFLA-MW7OB-SEP2020	N	Benzo(a)pyrene	0.190	0.0930 U	0.0930 UJ		ug/l	D
NHFLA-MW7OB-SEP2020	N	Benzo(g,h,i)perylene	0.190	0.0930 U	0.0930 UJ		ug/l	D
NHFLA-MW7OB-SEP2020	N	Dibenz(a,h)anthracene	0.190	0.0930 U	0.0930 UJ		ug/l	D
NHFLA-MW7OB-SEP2020	N	Fluoranthene	0.190	0.0930 U	0.0930 UJ		ug/l	D
NHFLA-MW7OB-SEP2020	N	Indeno(1,2,3-c,d)pyrene	0.190	0.0930 U	0.0930 UJ		ug/l	D
NHFLA-MW7OB-SEP2020	N	Naphthalene	0.190	0.0930 U	0.0930 UJ		ug/l	D
NHFLA-MW7OB-SEP2020	N	Phenanthrene	0.190	0.0930 U	0.0930 UJ		ug/l	D

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method BNASIM, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW4BR-SEP2020 (N)/ SN8174-3	Pyrene-d10	48.30	53 - 166	10 - 166	percent	J/UJ	I	
NHFLA-MW5BR-SEP2020 (N)/ SN8174-5	Fluorene-d10	16.60	29 - 101	10 - 101	percent	J/UJ	I	
NHFLA-MW5BR-SEP2020 (N)/ SN8174-5	Pyrene-d10	18.30	53 - 166	10 - 166	percent	J/UJ	I	
NHFLA-MW5BR-SEP2020 (N)/ SN8174-5	2-Methylnaphthalene-d10	27.20	43 - 92	10 - 92	percent	J/UJ	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW4BR-SEP2020	N	2-Methylnaphthalene	0.220	0.110 U	0.110 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Acenaphthene	0.220	0.110 U	0.110 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Acenaphthylene	0.220	0.110 U	0.110 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Anthracene	0.220	0.130 J	0.130 J	-	ug/l	I/TR
NHFLA-MW4BR-SEP2020	N	Benzo(a)anthracene	0.220	0.110 U	0.110 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Benzo(a)pyrene	0.220	0.110 U	0.110 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Benzo(b)fluoranthene	0.220	0.110 U	0.110 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Benzo(g,h,i)perylene	0.220	0.110 U	0.110 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Benzo(k)fluoranthene	0.220	0.110 U	0.110 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Chrysene	0.220	0.470	0.470 J	-	ug/l	I
NHFLA-MW4BR-SEP2020	N	Dibenz(a,h)anthracene	0.220	0.110 U	0.110 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Fluoranthene	0.220	0.100 J	0.100 J	-	ug/l	I/TR
NHFLA-MW4BR-SEP2020	N	Fluorene	0.220	0.280	0.280 J	-	ug/l	I
NHFLA-MW4BR-SEP2020	N	Indeno(1,2,3-c,d)pyrene	0.220	0.110 U	0.110 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Naphthalene	0.220	0.110 U	0.110 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Phenanthrene	0.220	1.40	1.40 J	-	ug/l	I
NHFLA-MW4BR-SEP2020	N	Pyrene	0.220	0.160 J	0.160 J	-	ug/l	I/TR
NHFLA-MW5BR-SEP2020	N	Acenaphthene	0.190	0.0960 U	0.0960 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Acenaphthylene	0.190	0.0960 U	0.0960 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Anthracene	0.190	0.620	0.620 J	-	ug/l	I
NHFLA-MW5BR-SEP2020	N	Benzo(a)anthracene	0.190	0.150 J	0.150 J	-	ug/l	I/TR
NHFLA-MW5BR-SEP2020	N	Benzo(a)pyrene	0.190	0.0730 J	0.0730 J	-	ug/l	I/TR
NHFLA-MW5BR-SEP2020	N	Benzo(b)fluoranthene	0.190	0.0960 U	0.0960 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Benzo(g,h,i)perylene	0.190	0.120 J	0.120 J	-	ug/l	I/TR
NHFLA-MW5BR-SEP2020	N	Benzo(k)fluoranthene	0.190	0.150 J	0.150 J	-	ug/l	I/TR
NHFLA-MW5BR-SEP2020	N	Chrysene	0.190	1.60	1.60 J	-	ug/l	I
NHFLA-MW5BR-SEP2020	N	Dibenz(a,h)anthracene	0.190	0.0960 U	0.0960 UJ		ug/l	I

Qualified Results associated with the Surrogate for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW5BR-SEP2020	N	Fluoranthene	0.190	0.390	0.390 J	-	ug/l	I
NHFLA-MW5BR-SEP2020	N	Fluorene	0.190	1.10	1.10 J	-	ug/l	I
NHFLA-MW5BR-SEP2020	N	Indeno(1,2,3-c,d)pyrene	0.190	0.0670 J	0.0670 J	-	ug/l	I/TR
NHFLA-MW5BR-SEP2020	N	Naphthalene	0.190	4.30	4.30 J	-	ug/l	I
NHFLA-MW5BR-SEP2020	N	Phenanthrene	0.190	4.90	4.90 J	-	ug/l	I
NHFLA-MW5BR-SEP2020	N	Pyrene	0.190	0.850	0.850 J	-	ug/l	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Dissolved, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB22-SEP2020 (EB)/ SN8174-8	Barium	0.4700	< 0.27	< 2	ug/l	U/None	V	
NHFLA-EB22-SEP2020 (EB)/ SN8174-8	Chromium	0.5400	< 0.22	< 5	ug/l	U/None	V	
NHFLA-EB22-SEP2020 (EB)/ SN8174-8	Iron	14.00	< 13	< 100	ug/l	U/None	V	
NHFLA-EB22-SEP2020 (EB)/ SN8174-8	Magnesium	19.00	< 8	< 100	ug/l	U/None	V	
NHFLA-EB22-SEP2020 (EB)/ SN8174-8	Calcium	32.00	< 21	< 100	ug/l	U/None	V	
NHFLA-EB22-SEP2020 (EB)/ SN8174-8	Sodium	617.0	< 19	< 1000	ug/l	U/None	V	
NHFLA-EB22-SEP2020 (EB)/ SN8174-8	Aluminum	9.800	< 4.4	< 100	ug/l	U/None	V	
NHFLA-EB22-SEP2020 (EB)/ SN8174-8	Copper	1.800	< 0.19	< 3	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW6020, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW4BR-SEP2020	N	Aluminum	100	16.0 J	40.0 U		ug/l	V/L
NHFLA-MW4BR-SEP2020	N	Chromium	5.00	0.590 J	4.00 U		ug/l	V/L
NHFLA-MW4BR-SEP2020	N	Copper	6.00	6.00	6.00 U		ug/l	V
NHFLA-MW4BR-SEP2020	N	Iron	100	27.0 J	60.0 U		ug/l	V/L
NHFLA-MW4OB-SEP2020	N	Chromium	5.00	1.30 J	4.00 U		ug/l	V/L
NHFLA-MW4OB-SEP2020	N	Copper	3.00	0.680 J	2.00 U		ug/l	V
NHFLA-MW5BR-SEP2020	N	Chromium	5.00	2.66 J	4.00 U		ug/l	V
NHFLA-MW7OB-SEP2020	N	Chromium	5.00	1.60 J	4.00 U		ug/l	V
NHFLA-MW7OB-SEP2020	N	Copper	3.00	1.60 J	2.00 U		ug/l	V/L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Dissolved, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
SN8174-14 (LB)/ SN8174-14	Cadmium	0.07400	< 0.029	< 1	ug/l	U/None	L	
SN8174-14 (LB)/ SN8174-14	Beryllium	0.08000	< 0.034	< 1	ug/l	U/None	L	
SN8174-14 (LB)/ SN8174-14	Antimony	0.1400	< 0.055	< 1	ug/l	U/None	L	
SN8174-14 (LB)/ SN8174-14	Lead	0.1600	< 0.075	< 1	ug/l	U/None	L	
SN8174-14 (LB)/ SN8174-14	Thallium	0.1700	< 0.06	< 1	ug/l	U/None	L	
SN8174-14 (LB)/ SN8174-14	Cobalt	0.1900	< 0.06	< 1	ug/l	U/None	L	
SN8174-14 (LB)/ SN8174-14	Selenium	0.2000	< 0.19	< 5	ug/l	U/None	L	
SN8174-14 (LB)/ SN8174-14	Vanadium	0.6100	< 0.5	< 5	ug/l	U/None	L	
SN8174-14 (LB)/ SN8174-14	Manganese	0.6700	< 0.35	< 2	ug/l	U/None	L	
SN8174-14 (LB)/ SN8174-14	Chromium	0.8600	< 0.22	< 5	ug/l	U/None	L	
SN8174-14 (LB)/ SN8174-14	Aluminum	10.00	< 4.4	< 100	ug/l	U/None	L	
SN8174-14 (LB)/ SN8174-14	Magnesium	12.00	< 8	< 100	ug/l	U/None	L	
SN8174-14 (LB)/ SN8174-14	Sodium	160.0	< 19	< 1000	ug/l	U/None	L	
SN8174-14 (LB)/ SN8174-14	Barium	2.300	< 0.27	< 2	ug/l	U/None	L	
SN8174-14 (LB)/ SN8174-14	Iron	21.00	< 13	< 100	ug/l	U/None	L	
SN8174-14 (LB)/ SN8174-14	Calcium	38.00	< 21	< 100	ug/l	U/None	L	
SN8174-14 (LB)/ SN8174-14	Copper	1.300	< 0.19	< 3	ug/l	U/None	L	
SN8174-14 (LB)/ SN8174-14	Zinc	4.200	< 3.9	< 10	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6020, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB22-SEP2020	EB	Aluminum	100	9.80 J	40.0 U		ug/l	L
NHFLA-EB22-SEP2020	EB	Barium	2.00	0.470 J	1.00 U		ug/l	L
NHFLA-EB22-SEP2020	EB	Calcium	100	32.0 J	80.0 U		ug/l	L
NHFLA-EB22-SEP2020	EB	Chromium	5.00	0.540 J	4.00 U		ug/l	L
NHFLA-EB22-SEP2020	EB	Copper	3.00	1.80 J	2.00 U		ug/l	L

Qualified Results associated with the Lab Blank for SW6020, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB22-SEP2020	EB	Iron	100	14.0 J	60.0 U		ug/l	L
NHFLA-EB22-SEP2020	EB	Magnesium	100	19.0 J	80.0 U		ug/l	L
NHFLA-EB22-SEP2020	EB	Sodium	1000	617 J	1000 U		ug/l	L
NHFLA-MW4BR-SEP2020	N	Aluminum	100	16.0 J	40.0 U		ug/l	V/L
NHFLA-MW4BR-SEP2020	N	Cadmium	1.00	0.230 J	1.00 U		ug/l	L
NHFLA-MW4BR-SEP2020	N	Chromium	5.00	0.590 J	4.00 U		ug/l	V/L
NHFLA-MW4BR-SEP2020	N	Iron	100	27.0 J	60.0 U		ug/l	V/L
NHFLA-MW4BR-SEP2020	N	Lead	1.00	0.110 J	0.500 U		ug/l	L
NHFLA-MW4BR-SEP2020	N	Selenium	5.00	1.80 J	3.00 U		ug/l	L
NHFLA-MW4BR-SEP2020	N	Thallium	1.00	0.500 J	1.00 U		ug/l	L
NHFLA-MW4BR-SEP2020	N	Vanadium	5.00	2.20 J	4.00 U		ug/l	L
NHFLA-MW4OB-SEP2020	N	Aluminum	100	19.0 J	40.0 U		ug/l	L
NHFLA-MW4OB-SEP2020	N	Antimony	1.00	0.0980 J	0.500 U		ug/l	L
NHFLA-MW4OB-SEP2020	N	Cadmium	1.00	0.0920 J	0.200 U		ug/l	L
NHFLA-MW4OB-SEP2020	N	Chromium	5.00	0.750 J	4.00 U		ug/l	L
NHFLA-MW4OB-SEP2020	N	Selenium	5.00	0.230 J	3.00 U		ug/l	L
NHFLA-MW5BR-SEP2020	N	Cadmium	1.00	0.190 J	0.200 U		ug/l	L
NHFLA-MW5BR-SEP2020	N	Chromium	5.00	0.850 J	4.00 U		ug/l	V/L
NHFLA-MW5BR-SEP2020	N	Cobalt	1.00	0.709 J	1.00 U		ug/l	L
NHFLA-MW5BR-SEP2020	N	Copper	3.73	3.73	3.73 U		ug/l	L
NHFLA-MW5BR-SEP2020	N	Iron	100	86.0 J	100 U		ug/l	L
NHFLA-MW5BR-SEP2020	N	Lead	1.00	0.720 J	1.00 U		ug/l	L
NHFLA-MW5BR-SEP2020	N	Thallium	1.00	0.340 J	0.400 U		ug/l	L
NHFLA-MW5BR-SEP2020	N	Vanadium	5.00	2.10 J	4.00 U		ug/l	L
NHFLA-MW7OB-SEP2020	N	Antimony	1.00	0.150 J	0.500 U		ug/l	L
NHFLA-MW7OB-SEP2020	N	Beryllium	1.00	0.0640 J	0.200 U		ug/l	L
NHFLA-MW7OB-SEP2020	N	Cadmium	1.00	0.0730 J	0.200 U		ug/l	L
NHFLA-MW7OB-SEP2020	N	Chromium	5.00	0.880 J	4.00 U		ug/l	V/L
NHFLA-MW7OB-SEP2020	N	Cobalt	1.00	0.130 J	0.300 U		ug/l	L
NHFLA-MW7OB-SEP2020	N	Copper	3.00	1.60 J	2.00 U		ug/l	V/L
NHFLA-MW7OB-SEP2020	N	Iron	100	90.0 J	100 U		ug/l	L
NHFLA-MW7OB-SEP2020	N	Selenium	5.00	0.540 J	3.00 U		ug/l	L
NHFLA-MW7OB-SEP2020	N	Thallium	1.00	0.100 J	0.400 U		ug/l	L
NHFLA-MW7OB-SEP2020	N	Vanadium	5.00	1.50 J	4.00 U		ug/l	L
NHFLA-MW7OB-SEP2020	N	Zinc	10.0	9.90 J	10.0 U		ug/l	V/L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Dissolved, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MSD8-SEP2020 (SD)/ SN8174-010P	Sodium	68.97	85 - 117	30 - 125	percent	J/UJ	M	Spike amount Insignificant

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB22-SEP2020 (EB)/ SN8174-7	Chromium	0.5800	< 0.22	< 5	ug/l	U/None	V	
NHFLA-EB22-SEP2020 (EB)/ SN8174-7	Barium	1.600	< 0.27	< 2	ug/l	U/None	V	
NHFLA-EB22-SEP2020 (EB)/ SN8174-7	Magnesium	19.00	< 8	< 100	ug/l	U/None	V	
NHFLA-EB22-SEP2020 (EB)/ SN8174-7	Potassium	36.00	< 31	< 1000	ug/l	U/None	V	
NHFLA-EB22-SEP2020 (EB)/ SN8174-7	Calcium	57.00	< 21	< 100	ug/l	U/None	V	
NHFLA-EB22-SEP2020 (EB)/ SN8174-7	Aluminum	8.400	< 4.4	< 100	ug/l	U/None	V	
NHFLA-EB22-SEP2020 (EB)/ SN8174-7	Sodium	806.0	< 19	< 1000	ug/l	U/None	V	
NHFLA-EB22-SEP2020 (EB)/ SN8174-7	Copper	1.600	< 0.19	< 3	ug/l	U/None	V	
NHFLA-EB22-SEP2020 (EB)/ SN8174-7	Zinc	5.100	< 3.9	< 10	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW4BR-SEP2020	N	Aluminum	100	16.0 J	40.0 U		ug/l	V/L
NHFLA-MW4BR-SEP2020	N	Chromium	5.00	0.590 J	4.00 U		ug/l	V/L
NHFLA-MW4BR-SEP2020	N	Copper	6.00	6.00	6.00 U		ug/l	V
NHFLA-MW4OB-SEP2020	N	Chromium	5.00	1.30 J	4.00 U		ug/l	V/L
NHFLA-MW4OB-SEP2020	N	Copper	3.00	0.680 J	2.00 U		ug/l	V
NHFLA-MW4OB-SEP2020	N	Zinc	10.0	20.0	20.0 J	+	ug/l	V
NHFLA-MW5BR-SEP2020	N	Chromium	5.00	2.66 J	4.00 U		ug/l	V
NHFLA-MW5BR-SEP2020	N	Zinc	10.0	8.90 J	10.0 U		ug/l	V
NHFLA-MW7OB-SEP2020	N	Chromium	5.00	1.60 J	4.00 U		ug/l	V
NHFLA-MW7OB-SEP2020	N	Copper	3.00	1.60 J	2.00 U		ug/l	V/L
NHFLA-MW7OB-SEP2020	N	Zinc	10.0	9.90 J	10.0 U		ug/l	V/L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNJ01IMW2 (LB)/ PBWNJ01IMW2	Cadmium	0.05400	< 0.03	< 1	ug/l	U/None	L	
PBWNJ01IMW2 (LB)/ PBWNJ01IMW2	Beryllium	0.05600	< 0.034	< 1	ug/l	U/None	L	
PBWNJ01IMW2 (LB)/ PBWNJ01IMW2	Cobalt	0.08600	< 0.061	< 1	ug/l	U/None	L	
PBWNJ01IMW2 (LB)/ PBWNJ01IMW2	Lead	0.1200	< 0.074	< 1	ug/l	U/None	L	
PBWNJ01IMW2 (LB)/ PBWNJ01IMW2	Antimony	0.1300	< 0.054	< 1	ug/l	U/None	L	
PBWNJ01IMW2 (LB)/ PBWNJ01IMW2	Thallium	0.1400	< 0.061	< 1	ug/l	U/None	L	
PBWNJ01IMW2 (LB)/ PBWNJ01IMW2	Chromium	0.3800	< 0.22	< 5	ug/l	U/None	L	
PBWNJ01IMW2 (LB)/ PBWNJ01IMW2	Aluminum	12.00	< 4.4	< 100	ug/l	U/None	L	
PBWNJ01IMW2 (LB)/ PBWNJ01IMW2	Magnesium	18.00	< 7.8	< 100	ug/l	U/None	L	
PBWNJ01IMW2 (LB)/ PBWNJ01IMW2	Sodium	252.0	< 19	< 1000	ug/l	U/None	L	
PBWNJ01IMW3 (LB)/ PBWNJ01IMW3	Beryllium	0.05600	< 0.034	< 1	ug/l	U/None	L	
PBWNJ01IMW3 (LB)/ PBWNJ01IMW3	Cadmium	0.05900	< 0.03	< 1	ug/l	U/None	L	
PBWNJ01IMW3 (LB)/ PBWNJ01IMW3	Cobalt	0.08800	< 0.061	< 1	ug/l	U/None	L	
PBWNJ01IMW3 (LB)/ PBWNJ01IMW3	Lead	0.1400	< 0.074	< 1	ug/l	U/None	L	
PBWNJ01IMW3 (LB)/ PBWNJ01IMW3	Antimony	0.1600	< 0.054	< 1	ug/l	U/None	L	
PBWNJ01IMW3 (LB)/ PBWNJ01IMW3	Thallium	0.1800	< 0.061	< 1	ug/l	U/None	L	
PBWNJ01IMW3 (LB)/ PBWNJ01IMW3	Chromium	0.3100	< 0.22	< 5	ug/l	U/None	L	
PBWNJ01IMW3 (LB)/ PBWNJ01IMW3	Vanadium	0.5300	< 0.51	< 5	ug/l	U/None	L	
PBWNJ01IMW3 (LB)/ PBWNJ01IMW3	Magnesium	15.00	< 7.8	< 100	ug/l	U/None	L	
PBWNJ01IMW3 (LB)/ PBWNJ01IMW3	Aluminum	7.700	< 4.4	< 100	ug/l	U/None	L	
PBWNJ01IMW3 (LB)/ PBWNJ01IMW3	Barium	0.8700	< 0.27	< 2	ug/l	U/None	L	
PBWNJ01IMW3 (LB)/ PBWNJ01IMW3	Sodium	100.0	< 19	< 1000	ug/l	U/None	L	
PBWNJ01IMW3 (LB)/ PBWNJ01IMW3	Copper	1.100	< 0.18	< 3	ug/l	U/None	L	
PBWNJ14IMW1 (LB)/ PBWNJ14IMW1	Copper	0.4700	< 0.18	< 3	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB22-SEP2020	EB	Aluminum	100	8.40 J	40.0 U		ug/l	L
NHFLA-EB22-SEP2020	EB	Barium	2.00	1.60 J	2.00 U		ug/l	L
NHFLA-EB22-SEP2020	EB	Chromium	5.00	0.580 J	4.00 U		ug/l	L
NHFLA-EB22-SEP2020	EB	Magnesium	100	19.0 J	80.0 U		ug/l	L
NHFLA-EB22-SEP2020	EB	Copper	3.00	1.60 J	2.00 U		ug/l	L
NHFLA-MW4OB-SEP2020	N	Antimony	1.00	0.160 J	0.500 U		ug/l	L
NHFLA-MW4OB-SEP2020	N	Beryllium	1.00	0.0480 J	0.200 U		ug/l	L
NHFLA-MW4OB-SEP2020	N	Cadmium	1.00	0.180 J	0.200 U		ug/l	L
NHFLA-MW4OB-SEP2020	N	Lead	1.00	0.520 J	1.00 U		ug/l	L
NHFLA-MW4OB-SEP2020	N	Thallium	1.00	0.0600 J	0.400 U		ug/l	L
NHFLA-MW4OB-SEP2020	N	Chromium	5.00	1.30 J	4.00 U		ug/l	V/L
NHFLA-MW5BR-SEP2020	N	Beryllium	1.00	0.0540 J	0.200 U		ug/l	L
NHFLA-MW5BR-SEP2020	N	Cadmium	1.00	0.190 J	0.200 U		ug/l	L
NHFLA-MW5BR-SEP2020	N	Thallium	1.00	0.400 J	0.400 U		ug/l	L
NHFLA-MW5BR-SEP2020	N	Copper	5.20	5.20	5.20 U		ug/l	L
NHFLA-MW7OB-SEP2020	N	Antimony	1.00	0.0640 J	0.500 U		ug/l	L
NHFLA-MW7OB-SEP2020	N	Cobalt	1.00	0.0930 J	0.300 U		ug/l	L
NHFLA-MW7OB-SEP2020	N	Vanadium	5.00	1.60 JN*	4.00 UJ		ug/l	L/D
NHFLA-MW7OB-SEP2020	N	Copper	3.00	2.08 J	3.00 U		ug/l	V/L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS8-SEP2020 (MS)/ SN8174-009S	Vanadium	138.5	86 - 115	30 - 125	percent	J/None	M	
NHFLA-MS8-SEP2020 (MS)/ SN8174-009S	Sodium	40.00	85 - 117	30 - 125	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MS8-SEP2020 (MS)/ SN8174-009S	Zinc	135.2	83 - 119	30 - 125	percent	J/None	M	
NHFLA-MSD8-SEP2020 (SD)/ SN8174-009P	Calcium	134.0	87 - 118	30 - 125	percent	J/None	M	
NHFLA-MSD8-SEP2020 (SD)/ SN8174-009P	Sodium	80.00	85 - 117	30 - 125	percent	J/UJ	M	Spike amount Insignificant

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW7OB-SEP2020	N	Calcium	100	6590 N	6590 J	+	ug/l	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, MS RPD

The objective of matrix spikes/matrix spike duplicates (MS/MSD) RPD analysis is to demonstrate acceptable method precision by the laboratory at the time of analysis. MS/MSD analyses are also performed to generate data that determines the long-term precision of the analytical method on various matrices. Non-homogenous samples can impact the apparent method precision. Summary forms were evaluated and compared to electronic data deliverables. Matrix spikes/matrix spike duplicates results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS8-SEP2020 (SD)/ SN8174-009P	Vanadium	34.26	< 20	< 20	rpd	J/UJ	D	
NHFLA-MS8-SEP2020 (SD)/ SN8174-009P	Zinc	25.71	< 20	< 20	rpd	J/UJ	D	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS RPD for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW7OB-SEP2020	N	Vanadium	5.00	1.60 JN*	4.00 UJ		ug/l	L/D
NHFLA-MW7OB-SEP2020	N	Zinc	10.0	8.00 UN*	8.00 UJ		ug/l	D

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG287433-1 (LB)/ WG287433-1	Chromium, Hexavalent	0.001900	< 0.00076	< 0.025	mg/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW4BR-SEP2020	N	Chromium, Hexavalent	0.0250	0.000980 J	0.0125 U		mg/l	L
NHFLA-MW4OB-SEP2020	N	Chromium, Hexavalent	0.0250	0.00260 J	0.0125 U		mg/l	L
NHFLA-MW5BR-SEP2020	N	Chromium, Hexavalent	0.0250	0.00190 J	0.0125 U		mg/l	L
NHFLA-MW7OB-SEP2020	N	Chromium, Hexavalent	0.0250	0.00120 J	0.0125 U		mg/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB22-SEP2020 (EB)/ SN8174-7	Toluene	1.000	< 0.27	< 1	ug/l	U/None	V	
NHFLA-EB22-SEP2020 (EB)/ SN8174-7	Acetone	3.900	< 2.2	< 5	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW4BR-SEP2020	N	Acetone	26.0	26.0	26.0 U		ug/l	V
NHFLA-MW4BR-SEP2020	N	Toluene	1.00	0.500 J	0.500 U		ug/l	V
NHFLA-MW4OB-SEP2020	N	Acetone	5.00	3.40 J	5.00 U		ug/l	V
NHFLA-MW4OB-SEP2020	N	Toluene	1.00	0.420 J	0.500 U		ug/l	V
NHFLA-MW7OB-SEP2020	N	Acetone	5.00	2.90 J	5.00 U		ug/l	V

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG287919-2 (LB)/ WG287919-2	Carbon disulfide	0.2700	< 0.25	< 1	ug/l	U/None	L	
WG288040-10 (LB)/ WG288040-10	Carbon disulfide	0.3200	< 0.25	< 1	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW4BR-SEP2020	N	Carbon disulfide	1.00	0.390 J	0.500 U		ug/l	L
NHFLA-MW5BR-SEP2020	N	Carbon disulfide	1.00	0.760 J	1.00 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS8-SEP2020 (MS)/ WG287919-6	Trichlorofluoromethane	143.0	65 - 141	10 - 141	percent	J/None	M	
NHFLA-MS8-SEP2020 (MS)/ WG287919-6	Dichlorodifluoromethane	178.2	32 - 152	10 - 152	percent	J/None	M	
NHFLA-MS8-SEP2020 (MS)/ WG287919-6	Chloroethane	198.0	60 - 138	10 - 138	percent	J/None	M	
NHFLA-MS8-SEP2020 (MS)/ WG287919-6	Methyl acetate	54.00	56 - 136	10 - 136	percent	J/UJ	M	
NHFLA-MSD8-SEP2020 (SD)/ WG287919-7	Vinyl chloride	138.4	58 - 137	10 - 137	percent	J/None	M	
NHFLA-MSD8-SEP2020 (SD)/ WG287919-7	Bromomethane	162.8	53 - 141	10 - 141	percent	J/None	M	
NHFLA-MSD8-SEP2020 (SD)/ WG287919-7	Dichlorodifluoromethane	175.0	32 - 152	10 - 152	percent	J/None	M	
NHFLA-MSD8-SEP2020 (SD)/ WG287919-7	Chloroethane	188.8	60 - 138	10 - 138	percent	J/None	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW7OB-SEP2020	N	Methyl acetate	1.00	0.750 UM	0.750 UJ		ug/l	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB22-SEP2020 (EB)/ SN8174-7	Benzaldehyde	4.700	< 0.93	< 9.3	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG287484-2 (BS)/ WG287484-2	Benzaldehyde	1348	10 - 189	10 - 189	percent	J/None	C	
WG288184-2 (BS)/ WG288184-2	Benzaldehyde	1074	10 - 189	10 - 189	percent	J/None	C	
WG288184-2 (BS)/ WG288184-2	2,2'-Oxybis(1-chloropropane)	35.20	37 - 130	10 - 130	percent	J/UJ	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB22-SEP2020	EB	Benzaldehyde	9.30	4.70 JL	4.70 J	+	ug/l	C/TR

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS8-SEP2020 (MS)/ WG287484-3	Benzaldehyde	1049	10 - 189	10 - 189	percent	J/None	M	
NHFLA-MS8-SEP2020 (MS)/ WG287484-3	4-Chloroaniline	20.56	33 - 117	10 - 117	percent	J/UJ	M	
NHFLA-MS8-SEP2020 (MS)/ WG287484-3	3-Nitroaniline	23.55	41 - 128	10 - 128	percent	J/UJ	M	
NHFLA-MS8-SEP2020 (MS)/ WG287484-3	Cresols, m- & p-	27.84	29 - 110	10 - 110	percent	J/UJ	M	
NHFLA-MS8-SEP2020 (MS)/ WG287484-3	4-Chloro-3-methylphenol	41.76	52 - 119	10 - 119	percent	J/UJ	M	
NHFLA-MS8-SEP2020 (MS)/ WG287484-3	2,4-Dichlorophenol	43.90	47 - 121	10 - 121	percent	J/UJ	M	
NHFLA-MS8-SEP2020 (MS)/ WG287484-3	Bis(2-chloroethoxy)methane	47.11	48 - 120	10 - 120	percent	J/UJ	M	
NHFLA-MS8-SEP2020 (MS)/ WG287484-3	Bis(2-ethylhexyl)phthalate	49.25	55 - 135	10 - 135	percent	J/UJ	M	
NHFLA-MS8-SEP2020 (MS)/ WG287484-3	2,4,5-Trichlorophenol	50.32	53 - 123	10 - 123	percent	J/UJ	M	
NHFLA-MS8-SEP2020 (MS)/ WG287484-3	Hexachlorobenzene	51.39	53 - 125	10 - 125	percent	J/UJ	M	
NHFLA-MS8-SEP2020 (MS)/ WG287484-3	2-Nitroaniline	53.53	55 - 127	10 - 127	percent	J/UJ	M	
NHFLA-MS8-SEP2020 (MS)/ WG287484-3	3,3'-Dichlorobenzidine	7.602	27 - 129	10 - 129	percent	J/X	M	
NHFLA-MSD8-SEP2020 (SD)/ WG287484-4	Benzaldehyde	1049	10 - 189	10 - 189	percent	J/None	M	
NHFLA-MSD8-SEP2020 (SD)/ WG287484-4	3,3'-Dichlorobenzidine	11.78	27 - 129	10 - 129	percent	J/UJ	M	
NHFLA-MSD8-SEP2020 (SD)/ WG287484-4	Cresols, m- & p-	26.77	29 - 110	10 - 110	percent	J/UJ	M	
NHFLA-MSD8-SEP2020 (SD)/ WG287484-4	4-Chloroaniline	27.84	33 - 117	10 - 117	percent	J/UJ	M	
NHFLA-MSD8-SEP2020 (SD)/ WG287484-4	3-Nitroaniline	27.84	41 - 128	10 - 128	percent	J/UJ	M	
NHFLA-MSD8-SEP2020 (SD)/ WG287484-4	4-Chloro-3-methylphenol	40.69	52 - 119	10 - 119	percent	J/UJ	M	
NHFLA-MSD8-SEP2020 (SD)/ WG287484-4	2,4-Dichlorophenol	42.83	47 - 121	10 - 121	percent	J/UJ	M	
NHFLA-MSD8-SEP2020 (SD)/ WG287484-4	2,4,5-Trichlorophenol	49.25	53 - 123	10 - 123	percent	J/UJ	M	
NHFLA-MSD8-SEP2020 (SD)/ WG287484-4	Caprolactam	6.852	10 - 86	10 - 86	percent	J/X	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW7OB-SEP2020	N	2-Nitroaniline	23.0	18.0 UM	18.0 UJ		ug/l	M
NHFLA-MW7OB-SEP2020	N	3-Nitroaniline	23.0	18.0 UMM	18.0 UJ		ug/l	M
NHFLA-MW7OB-SEP2020	N	4-Chloroaniline	9.30	7.00 UMM	7.00 UJ		ug/l	M
NHFLA-MW7OB-SEP2020	N	Bis(2-chloroethoxy)methane	9.30	7.00 U	7.00 UJ		ug/l	M
NHFLA-MW7OB-SEP2020	N	Bis(2-ethylhexyl)phthalate	9.30	7.00 UM	7.00 UJ		ug/l	M
NHFLA-MW7OB-SEP2020	N	Hexachlorobenzene	9.30	7.00 UM	7.00 UJ		ug/l	M
NHFLA-MW7OB-SEP2020	N	2,4,5-Trichlorophenol	23.0	18.0 UMM	18.0 X		ug/l	M/I
NHFLA-MW7OB-SEP2020	N	2,4-Dichlorophenol	9.30	7.00 UMM	7.00 X		ug/l	M/I
NHFLA-MW7OB-SEP2020	N	3,3'-Dichlorobenzidine	9.30	7.00 UMM	7.00 UJ		ug/l	M
NHFLA-MW7OB-SEP2020	N	4-Chloro-3-methylphenol	9.30	7.00 UMM	7.00 X		ug/l	M/I
NHFLA-MW7OB-SEP2020	N	Caprolactam	9.30	7.00 UM	7.00 UJ		ug/l	M
NHFLA-MW7OB-SEP2020	N	Cresols, m- & p-	9.30	7.00 UMM	7.00 X		ug/l	M/I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW4BR-SEP2020 (N)/ SN8174-3	Terphenyl-d14	49.60	50 - 134	10 - 134	percent	J/UJ	I	
NHFLA-MW4OB-SEP2020 (N)/ SN8174-1	2-Fluorophenol	0.000	19 - 119	10 - 119	percent	J/X	I	
NHFLA-MW4OB-SEP2020 (N)/ SN8174-1	2,4,6-Tribromophenol	0.000	43 - 140	10 - 140	percent	J/X	I	
NHFLA-MW4OB-SEP2020 (N)/ SN8174-1	Phenol-d6	0.9460	10 - 90	10 - 90	percent	J/X	I	
NHFLA-MW5BR-SEP2020 (N)/ SN8174-5	2-Fluorobiphenyl	22.10	44 - 119	10 - 119	percent	J/UJ	I	
NHFLA-MW5BR-SEP2020 (N)/ SN8174-5	Terphenyl-d14	22.90	50 - 134	10 - 134	percent	J/UJ	I	
NHFLA-MW5BR-SEP2020 (N)/ SN8174-5	2,4,6-Tribromophenol	29.30	43 - 140	10 - 140	percent	J/UJ	I	
NHFLA-MW7OB-SEP2020 (N)/ SN8174-9	2-Fluorophenol	1.120	19 - 119	10 - 119	percent	J/X	I	
NHFLA-MW7OB-SEP2020 (N)/ SN8174-9	2,4,6-Tribromophenol	1.720	43 - 140	10 - 140	percent	J/X	I	
NHFLA-MW7OB-SEP2020 (N)/ SN8174-9	Phenol-d6	2.990	10 - 90	10 - 90	percent	J/X	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW4BR-SEP2020	N	1,2,4,5-Tetrachlorobenzene	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	1,4-Dioxane (p-Dioxane)	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	2,2'-Oxybis(1-chloropropane)	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	2,4-Dinitrotoluene	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	2,6-Dinitrotoluene	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	2-Chloronaphthalene	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	2-Nitroaniline	28.0	21.0 U	21.0 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	3,3'-Dichlorobenzidine	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	3-Nitroaniline	28.0	21.0 U	21.0 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	4-Bromophenyl phenyl ether	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	4-Chloroaniline	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	4-Chlorophenyl phenyl ether	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	4-Nitroaniline	28.0	21.0 U	21.0 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Acetophenone	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Atrazine	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Benzaldehyde	11.0	8.40 UL	8.40 UJ		ug/l	I

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW4BR-SEP2020	N	Benzyl butyl phthalate	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Biphenyl (Diphenyl)	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Bis(2-chloroethoxy)methane	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Bis(2-ethylhexyl)phthalate	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Caprolactam	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Carbazole	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Dibenzofuran	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Diethyl phthalate	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Dimethyl phthalate	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Di-n-butyl phthalate	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	di-n-Octyl phthalate	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Hexachlorobenzene	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Hexachlorobutadiene	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Hexachlorocyclopentadiene	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Hexachloroethane	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Isophorone	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Nitrobenzene	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	N-Nitrosodi-n-propylamine	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	N-Nitrosodiphenylamine	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4OB-SEP2020	N	2,3,4,6-Tetrachlorophenol	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-MW4OB-SEP2020	N	2,4,5-Trichlorophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-MW4OB-SEP2020	N	2,4,6-Trichlorophenol	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-MW4OB-SEP2020	N	2,4-Dichlorophenol	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-MW4OB-SEP2020	N	2,4-Dimethylphenol	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-MW4OB-SEP2020	N	2,4-Dinitrophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-MW4OB-SEP2020	N	2-Chlorophenol	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-MW4OB-SEP2020	N	2-Methylphenol (o-Cresol)	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-MW4OB-SEP2020	N	2-Nitrophenol	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-MW4OB-SEP2020	N	4,6-Dinitro-2-methylphenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-MW4OB-SEP2020	N	4-Chloro-3-methylphenol	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-MW4OB-SEP2020	N	4-Nitrophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-MW4OB-SEP2020	N	Cresols, m- & p-	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-MW4OB-SEP2020	N	Pentachlorophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-MW4OB-SEP2020	N	Phenol	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-MW5BR-SEP2020	N	1,2,4,5-Tetrachlorobenzene	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	1,4-Dioxane (p-Dioxane)	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	2,2'-Oxybis(1-chloropropane)	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	2,3,4,6-Tetrachlorophenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	2,4,5-Trichlorophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	2,4,6-Trichlorophenol	9.60	7.20 U	7.20 UJ		ug/l	I

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW5BR-SEP2020	N	2,4-Dichlorophenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	2,4-Dimethylphenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	2,4-Dinitrophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	2,4-Dinitrotoluene	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	2,6-Dinitrotoluene	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	2-Chloronaphthalene	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	2-Chlorophenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	2-Methylphenol (o-Cresol)	9.60	6.10 J	6.10 J	-	ug/l	I/TR
NHFLA-MW5BR-SEP2020	N	2-Nitroaniline	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	2-Nitrophenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	3,3'-Dichlorobenzidine	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	3-Nitroaniline	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	4,6-Dinitro-2-methylphenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	4-Bromophenyl phenyl ether	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	4-Chloro-3-methylphenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	4-Chloroaniline	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	4-Chlorophenyl phenyl ether	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	4-Nitroaniline	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	4-Nitrophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Acetophenone	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Atrazine	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Benzaldehyde	9.60	7.20 UL	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Benzyl butyl phthalate	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Biphenyl (Diphenyl)	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Bis(2-chloroethoxy)methane	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Bis(2-ethylhexyl)phthalate	9.60	3.40 J	3.40 J	-	ug/l	I/TR
NHFLA-MW5BR-SEP2020	N	Caprolactam	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Carbazole	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Cresols, m- & p-	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Dibenzofuran	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Diethyl phthalate	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Dimethyl phthalate	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Di-n-butyl phthalate	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	di-n-Octyl phthalate	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Hexachlorobenzene	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Hexachlorobutadiene	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Hexachlorocyclopentadiene	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Hexachloroethane	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Isophorone	9.60	7.20 U	7.20 UJ		ug/l	I

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW5BR-SEP2020	N	Nitrobenzene	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	N-Nitrosodi-n-propylamine	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	N-Nitrosodiphenylamine	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Pentachlorophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Phenol	9.60	9.90	9.90 J	-	ug/l	I
NHFLA-MW7OB-SEP2020	N	2,3,4,6-Tetrachlorophenol	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-MW7OB-SEP2020	N	2,4,5-Trichlorophenol	23.0	18.0 UMM	18.0 X		ug/l	M/I
NHFLA-MW7OB-SEP2020	N	2,4,6-Trichlorophenol	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-MW7OB-SEP2020	N	2,4-Dichlorophenol	9.30	7.00 UMM	7.00 X		ug/l	M/I
NHFLA-MW7OB-SEP2020	N	2,4-Dimethylphenol	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-MW7OB-SEP2020	N	2,4-Dinitrophenol	23.0	18.0 U	18.0 X		ug/l	I
NHFLA-MW7OB-SEP2020	N	2-Chlorophenol	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-MW7OB-SEP2020	N	2-Methylphenol (o-Cresol)	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-MW7OB-SEP2020	N	2-Nitrophenol	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-MW7OB-SEP2020	N	4,6-Dinitro-2-methylphenol	23.0	18.0 U	18.0 X		ug/l	I
NHFLA-MW7OB-SEP2020	N	4-Chloro-3-methylphenol	9.30	7.00 UMM	7.00 X		ug/l	M/I
NHFLA-MW7OB-SEP2020	N	4-Nitrophenol	23.0	18.0 U	18.0 X		ug/l	I
NHFLA-MW7OB-SEP2020	N	Atrazine	9.30	7.00 U	7.00 U		ug/l	I
NHFLA-MW7OB-SEP2020	N	Cresols, m- & p-	9.30	7.00 UMM	7.00 X		ug/l	M/I
NHFLA-MW7OB-SEP2020	N	Pentachlorophenol	23.0	18.0 U	18.0 X		ug/l	I
NHFLA-MW7OB-SEP2020	N	Phenol	9.30	7.00 U	7.00 X		ug/l	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Table of All Qualified Results

Test Method: BNASIM	**Extraction Method: SW3510**							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW4BR-SEP2020	N	2-Methylnaphthalene	0.220	0.110 U	0.110 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Acenaphthene	0.220	0.110 U	0.110 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Acenaphthylene	0.220	0.110 U	0.110 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Anthracene	0.220	0.130 J	0.130 J	-	ug/l	I/TR
NHFLA-MW4BR-SEP2020	N	Benzo(a)anthracene	0.220	0.110 U	0.110 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Benzo(a)pyrene	0.220	0.110 U	0.110 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Benzo(b)fluoranthene	0.220	0.110 U	0.110 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Benzo(g,h,i)perylene	0.220	0.110 U	0.110 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Benzo(k)fluoranthene	0.220	0.110 U	0.110 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Chrysene	0.220	0.470	0.470 J	-	ug/l	I
NHFLA-MW4BR-SEP2020	N	Dibenz(a,h)anthracene	0.220	0.110 U	0.110 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Fluoranthene	0.220	0.100 J	0.100 J	-	ug/l	I/TR
NHFLA-MW4BR-SEP2020	N	Fluorene	0.220	0.280	0.280 J	-	ug/l	I
NHFLA-MW4BR-SEP2020	N	Indeno(1,2,3-c,d)pyrene	0.220	0.110 U	0.110 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Naphthalene	0.220	0.110 U	0.110 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Phenanthrene	0.220	1.40	1.40 J	-	ug/l	I
NHFLA-MW4BR-SEP2020	N	Pyrene	0.220	0.160 J	0.160 J	-	ug/l	I/TR
NHFLA-MW4OB-SEP2020	N	2-Methylnaphthalene	0.190	0.200	0.200 J	+	ug/l	V
NHFLA-MW5BR-SEP2020	N	Acenaphthene	0.190	0.0960 U	0.0960 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Acenaphthylene	0.190	0.0960 U	0.0960 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Anthracene	0.190	0.620	0.620 J	-	ug/l	I
NHFLA-MW5BR-SEP2020	N	Benzo(a)anthracene	0.190	0.150 J	0.150 J	-	ug/l	I/TR
NHFLA-MW5BR-SEP2020	N	Benzo(a)pyrene	0.190	0.0730 J	0.0730 J	-	ug/l	I/TR
NHFLA-MW5BR-SEP2020	N	Benzo(b)fluoranthene	0.190	0.0960 U	0.0960 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Benzo(g,h,i)perylene	0.190	0.120 J	0.120 J	-	ug/l	I/TR
NHFLA-MW5BR-SEP2020	N	Benzo(k)fluoranthene	0.190	0.150 J	0.150 J	-	ug/l	I/TR
NHFLA-MW5BR-SEP2020	N	Chrysene	0.190	1.60	1.60 J	-	ug/l	I
NHFLA-MW5BR-SEP2020	N	Dibenz(a,h)anthracene	0.190	0.0960 U	0.0960 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Fluoranthene	0.190	0.390	0.390 J	-	ug/l	I
NHFLA-MW5BR-SEP2020	N	Fluorene	0.190	1.10	1.10 J	-	ug/l	I
NHFLA-MW5BR-SEP2020	N	Indeno(1,2,3-c,d)pyrene	0.190	0.0670 J	0.0670 J	-	ug/l	I/TR
NHFLA-MW5BR-SEP2020	N	Naphthalene	0.190	4.30	4.30 J	-	ug/l	I
NHFLA-MW5BR-SEP2020	N	Phenanthrene	0.190	4.90	4.90 J	-	ug/l	I
NHFLA-MW5BR-SEP2020	N	Pyrene	0.190	0.850	0.850 J	-	ug/l	I
NHFLA-MW7OB-SEP2020	N	2-Methylnaphthalene	0.190	0.0930 U	0.0930 UJ		ug/l	D
NHFLA-MW7OB-SEP2020	N	Anthracene	0.190	0.0930 U	0.0930 UJ		ug/l	D
NHFLA-MW7OB-SEP2020	N	Benzo(a)pyrene	0.190	0.0930 U	0.0930 UJ		ug/l	D
NHFLA-MW7OB-SEP2020	N	Benzo(g,h,i)perylene	0.190	0.0930 U	0.0930 UJ		ug/l	D
NHFLA-MW7OB-SEP2020	N	Dibenz(a,h)anthracene	0.190	0.0930 U	0.0930 UJ		ug/l	D
NHFLA-MW7OB-SEP2020	N	Fluoranthene	0.190	0.0930 U	0.0930 UJ		ug/l	D

Table of All Qualified Results

Test Method: BNASIM	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW7OB-SEP2020	N	Indeno(1,2,3-c,d)pyrene	0.190	0.0930 U	0.0930 UJ		ug/l	D
NHFLA-MW7OB-SEP2020	N	Naphthalene	0.190	0.0930 U	0.0930 UJ		ug/l	D
NHFLA-MW7OB-SEP2020	N	Phenanthrene	0.190	0.0930 U	0.0930 UJ		ug/l	D

Test Method: SW6020	Extraction Method: Dissolved							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB22-SEP2020	EB	Aluminum	100	9.80 J	40.0 U		ug/l	L
NHFLA-EB22-SEP2020	EB	Barium	2.00	0.470 J	1.00 U		ug/l	L
NHFLA-EB22-SEP2020	EB	Calcium	100	32.0 J	80.0 U		ug/l	L
NHFLA-EB22-SEP2020	EB	Chromium	5.00	0.540 J	4.00 U		ug/l	L
NHFLA-EB22-SEP2020	EB	Copper	3.00	1.80 J	2.00 U		ug/l	L
NHFLA-EB22-SEP2020	EB	Iron	100	14.0 J	60.0 U		ug/l	L
NHFLA-EB22-SEP2020	EB	Magnesium	100	19.0 J	80.0 U		ug/l	L
NHFLA-EB22-SEP2020	EB	Sodium	1000	617 J	1000 U		ug/l	L
NHFLA-MW4BR-SEP2020	N	Aluminum	100	16.0 J	40.0 U		ug/l	V/L
NHFLA-MW4BR-SEP2020	N	Cadmium	1.00	0.230 J	1.00 U		ug/l	L
NHFLA-MW4BR-SEP2020	N	Lead	1.00	0.110 J	0.500 U		ug/l	L
NHFLA-MW4BR-SEP2020	N	Selenium	5.00	1.80 J	3.00 U		ug/l	L
NHFLA-MW4BR-SEP2020	N	Thallium	1.00	0.500 J	1.00 U		ug/l	L
NHFLA-MW4BR-SEP2020	N	Vanadium	5.00	2.20 J	4.00 U		ug/l	L
NHFLA-MW4BR-SEP2020	N	Chromium	5.00	0.590 J	4.00 U		ug/l	V/L
NHFLA-MW4BR-SEP2020	N	Copper	6.00	6.00	6.00 U		ug/l	V
NHFLA-MW4BR-SEP2020	N	Iron	100	27.0 J	60.0 U		ug/l	V/L
NHFLA-MW4OB-SEP2020	N	Aluminum	100	19.0 J	40.0 U		ug/l	L
NHFLA-MW4OB-SEP2020	N	Antimony	1.00	0.0980 J	0.500 U		ug/l	L
NHFLA-MW4OB-SEP2020	N	Cadmium	1.00	0.0920 J	0.200 U		ug/l	L
NHFLA-MW4OB-SEP2020	N	Chromium	5.00	0.750 J	4.00 U		ug/l	L
NHFLA-MW4OB-SEP2020	N	Selenium	5.00	0.230 J	3.00 U		ug/l	L
NHFLA-MW4OB-SEP2020	N	Zinc	10.0	20.0	20.0 J	+	ug/l	V
NHFLA-MW4OB-SEP2020	N	Copper	3.00	0.680 J	2.00 U		ug/l	V
NHFLA-MW5BR-SEP2020	N	Cadmium	1.00	0.190 J	0.200 U		ug/l	L
NHFLA-MW5BR-SEP2020	N	Cobalt	1.00	0.709 J	1.00 U		ug/l	L
NHFLA-MW5BR-SEP2020	N	Copper	3.73	3.73	3.73 U		ug/l	L
NHFLA-MW5BR-SEP2020	N	Iron	100	86.0 J	100 U		ug/l	L
NHFLA-MW5BR-SEP2020	N	Lead	1.00	0.720 J	1.00 U		ug/l	L
NHFLA-MW5BR-SEP2020	N	Thallium	1.00	0.340 J	0.400 U		ug/l	L
NHFLA-MW5BR-SEP2020	N	Vanadium	5.00	2.10 J	4.00 U		ug/l	L
NHFLA-MW5BR-SEP2020	N	Chromium	5.00	0.850 J	4.00 U		ug/l	V/L
NHFLA-MW7OB-SEP2020	N	Antimony	1.00	0.150 J	0.500 U		ug/l	L
NHFLA-MW7OB-SEP2020	N	Beryllium	1.00	0.0640 J	0.200 U		ug/l	L
NHFLA-MW7OB-SEP2020	N	Cadmium	1.00	0.0730 J	0.200 U		ug/l	L
NHFLA-MW7OB-SEP2020	N	Cobalt	1.00	0.130 J	0.300 U		ug/l	L
NHFLA-MW7OB-SEP2020	N	Copper	3.00	1.60 J	2.00 U		ug/l	V/L

Table of All Qualified Results

Test Method: SW6020 Extraction Method: Dissolved								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW7OB-SEP2020	N	Iron	100	90.0 J	100 U		ug/l	L
NHFLA-MW7OB-SEP2020	N	Selenium	5.00	0.540 J	3.00 U		ug/l	L
NHFLA-MW7OB-SEP2020	N	Thallium	1.00	0.100 J	0.400 U		ug/l	L
NHFLA-MW7OB-SEP2020	N	Vanadium	5.00	1.50 J	4.00 U		ug/l	L
NHFLA-MW7OB-SEP2020	N	Zinc	10.0	9.90 J	10.0 U		ug/l	V/L
NHFLA-MW7OB-SEP2020	N	Chromium	5.00	0.880 J	4.00 U		ug/l	V/L

Test Method: SW6020 Extraction Method: SW3010								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB22-SEP2020	EB	Aluminum	100	8.40 J	40.0 U		ug/l	L
NHFLA-EB22-SEP2020	EB	Barium	2.00	1.60 J	2.00 U		ug/l	L
NHFLA-EB22-SEP2020	EB	Chromium	5.00	0.580 J	4.00 U		ug/l	L
NHFLA-EB22-SEP2020	EB	Magnesium	100	19.0 J	80.0 U		ug/l	L
NHFLA-EB22-SEP2020	EB	Copper	3.00	1.60 J	2.00 U		ug/l	L
NHFLA-MW4OB-SEP2020	N	Antimony	1.00	0.160 J	0.500 U		ug/l	L
NHFLA-MW4OB-SEP2020	N	Beryllium	1.00	0.0480 J	0.200 U		ug/l	L
NHFLA-MW4OB-SEP2020	N	Cadmium	1.00	0.180 J	0.200 U		ug/l	L
NHFLA-MW4OB-SEP2020	N	Lead	1.00	0.520 J	1.00 U		ug/l	L
NHFLA-MW4OB-SEP2020	N	Thallium	1.00	0.0600 J	0.400 U		ug/l	L
NHFLA-MW4OB-SEP2020	N	Chromium	5.00	1.30 J	4.00 U		ug/l	V/L
NHFLA-MW4OB-SEP2020	N	Copper	3.00	2.76 J	3.00 U		ug/l	V
NHFLA-MW5BR-SEP2020	N	Beryllium	1.00	0.0540 J	0.200 U		ug/l	L
NHFLA-MW5BR-SEP2020	N	Cadmium	1.00	0.190 J	0.200 U		ug/l	L
NHFLA-MW5BR-SEP2020	N	Thallium	1.00	0.400 J	0.400 U		ug/l	L
NHFLA-MW5BR-SEP2020	N	Copper	5.20	5.20	5.20 U		ug/l	L
NHFLA-MW5BR-SEP2020	N	Zinc	10.0	8.90 J	10.0 U		ug/l	V
NHFLA-MW5BR-SEP2020	N	Chromium	5.00	2.66 J	4.00 U		ug/l	V
NHFLA-MW7OB-SEP2020	N	Antimony	1.00	0.0640 J	0.500 U		ug/l	L
NHFLA-MW7OB-SEP2020	N	Cobalt	1.00	0.0930 J	0.300 U		ug/l	L
NHFLA-MW7OB-SEP2020	N	Vanadium	5.00	1.60 JN*	4.00 UJ		ug/l	L/D
NHFLA-MW7OB-SEP2020	N	Calcium	100	6590 N	6590 J	+	ug/l	M
NHFLA-MW7OB-SEP2020	N	Zinc	10.0	8.00 UN*	8.00 UJ		ug/l	D
NHFLA-MW7OB-SEP2020	N	Chromium	5.00	1.60 J	4.00 U		ug/l	V
NHFLA-MW7OB-SEP2020	N	Copper	3.00	2.08 J	3.00 U		ug/l	V/L

Test Method: SW7196 Extraction Method: NONE								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW4BR-SEP2020	N	Chromium, Hexavalent	0.0250	0.000980 J	0.0125 U		mg/l	L
NHFLA-MW4OB-SEP2020	N	Chromium, Hexavalent	0.0250	0.00260 J	0.0125 U		mg/l	L
NHFLA-MW5BR-SEP2020	N	Chromium, Hexavalent	0.0250	0.00190 J	0.0125 U		mg/l	L
NHFLA-MW7OB-SEP2020	N	Chromium, Hexavalent	0.0250	0.00120 J	0.0125 U		mg/l	L

Table of All Qualified Results

Test Method: SW8260 Extraction Method: SW5030								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW4BR-SEP2020	N	Acetone	26.0	26.0	26.0 U		ug/l	V
NHFLA-MW4BR-SEP2020	N	Toluene	1.00	0.500 J	0.500 U		ug/l	V
NHFLA-MW4BR-SEP2020	N	Carbon disulfide	1.00	0.390 J	0.500 U		ug/l	L
NHFLA-MW4OB-SEP2020	N	Acetone	5.00	3.40 J	5.00 U		ug/l	V
NHFLA-MW4OB-SEP2020	N	Toluene	1.00	0.420 J	0.500 U		ug/l	V
NHFLA-MW5BR-SEP2020	N	Carbon disulfide	1.00	0.760 J	1.00 U		ug/l	L
NHFLA-MW7OB-SEP2020	N	Acetone	5.00	2.90 J	5.00 U		ug/l	V
NHFLA-MW7OB-SEP2020	N	Methyl acetate	1.00	0.750 UM	0.750 UJ		ug/l	M

Test Method: SW8270 Extraction Method: SW3510								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB22-SEP2020	EB	Benzaldehyde	9.30	4.70 JL	4.70 J	+	ug/l	C/TR
NHFLA-MW4BR-SEP2020	N	1,2,4,5-Tetrachlorobenzene	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	1,4-Dioxane (p-Dioxane)	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	2,2'-Oxybis(1-chloropropane)	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	2,4-Dinitrotoluene	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	2,6-Dinitrotoluene	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	2-Chloronaphthalene	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	2-Nitroaniline	28.0	21.0 U	21.0 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	3,3'-Dichlorobenzidine	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	3-Nitroaniline	28.0	21.0 U	21.0 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	4-Bromophenyl phenyl ether	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	4-Chloroaniline	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	4-Chlorophenyl phenyl ether	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	4-Nitroaniline	28.0	21.0 U	21.0 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Acetophenone	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Atrazine	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Benzaldehyde	11.0	8.40 UL	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Benzyl butyl phthalate	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Biphenyl (Diphenyl)	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Bis(2-chloroethoxy)methane	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Bis(2-ethylhexyl)phthalate	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Caprolactam	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Carbazole	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Dibenzofuran	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Diethyl phthalate	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Dimethyl phthalate	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Di-n-butyl phthalate	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	di-n-Octyl phthalate	11.0	8.40 U	8.40 UJ		ug/l	I

Table of All Qualified Results

Test Method: SW8270 Extraction Method: SW3510

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW4BR-SEP2020	N	Hexachlorobenzene	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Hexachlorobutadiene	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Hexachlorocyclopentadiene	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Hexachloroethane	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Isophorone	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	Nitrobenzene	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	N-Nitrosodi-n-propylamine	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4BR-SEP2020	N	N-Nitrosodiphenylamine	11.0	8.40 U	8.40 UJ		ug/l	I
NHFLA-MW4OB-SEP2020	N	2,3,4,6-Tetrachlorophenol	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-MW4OB-SEP2020	N	2,4,5-Trichlorophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-MW4OB-SEP2020	N	2,4,6-Trichlorophenol	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-MW4OB-SEP2020	N	2,4-Dichlorophenol	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-MW4OB-SEP2020	N	2,4-Dimethylphenol	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-MW4OB-SEP2020	N	2,4-Dinitrophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-MW4OB-SEP2020	N	2-Chlorophenol	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-MW4OB-SEP2020	N	2-Methylphenol (o-Cresol)	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-MW4OB-SEP2020	N	2-Nitrophenol	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-MW4OB-SEP2020	N	4,6-Dinitro-2-methylphenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-MW4OB-SEP2020	N	4-Chloro-3-methylphenol	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-MW4OB-SEP2020	N	4-Nitrophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-MW4OB-SEP2020	N	Cresols, m- & p-	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-MW4OB-SEP2020	N	Pentachlorophenol	24.0	18.0 U	18.0 X		ug/l	I
NHFLA-MW4OB-SEP2020	N	Phenol	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-MW5BR-SEP2020	N	1,2,4,5-Tetrachlorobenzene	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	1,4-Dioxane (p-Dioxane)	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	2,2'-Oxybis(1-chloropropane)	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	2,3,4,6-Tetrachlorophenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	2,4,5-Trichlorophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	2,4,6-Trichlorophenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	2,4-Dichlorophenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	2,4-Dimethylphenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	2,4-Dinitrophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	2,4-Dinitrotoluene	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	2,6-Dinitrotoluene	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	2-Chloronaphthalene	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	2-Chlorophenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	2-Methylphenol (o-Cresol)	9.60	6.10 J	6.10 J	-	ug/l	I/TR
NHFLA-MW5BR-SEP2020	N	2-Nitroaniline	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	2-Nitrophenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	3,3'-Dichlorobenzidine	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	3-Nitroaniline	24.0	18.0 U	18.0 UJ		ug/l	I

Table of All Qualified Results

Test Method: SW8270 Extraction Method: SW3510

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW5BR-SEP2020	N	4,6-Dinitro-2-methylphenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	4-Bromophenyl phenyl ether	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	4-Chloro-3-methylphenol	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	4-Chloroaniline	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	4-Chlorophenyl phenyl ether	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	4-Nitroaniline	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	4-Nitrophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Acetophenone	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Atrazine	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Benzaldehyde	9.60	7.20 UL	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Benzyl butyl phthalate	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Biphenyl (Diphenyl)	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Bis(2-chloroethoxy)methane	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Bis(2-ethylhexyl)phthalate	9.60	3.40 J	3.40 J	-	ug/l	I/TR
NHFLA-MW5BR-SEP2020	N	Caprolactam	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Carbazole	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Cresols, m- & p-	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Dibenzofuran	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Diethyl phthalate	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Dimethyl phthalate	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Di-n-butyl phthalate	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	di-n-Octyl phthalate	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Hexachlorobenzene	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Hexachlorobutadiene	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Hexachlorocyclopentadiene	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Hexachloroethane	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Isophorone	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Nitrobenzene	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	N-Nitrosodi-n-propylamine	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	N-Nitrosodiphenylamine	9.60	7.20 U	7.20 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Pentachlorophenol	24.0	18.0 U	18.0 UJ		ug/l	I
NHFLA-MW5BR-SEP2020	N	Phenol	9.60	9.90	9.90 J	-	ug/l	I
NHFLA-MW7OB-SEP2020	N	2,3,4,6-Tetrachlorophenol	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-MW7OB-SEP2020	N	2,4,5-Trichlorophenol	23.0	18.0 UMM	18.0 X		ug/l	M/I
NHFLA-MW7OB-SEP2020	N	2,4,6-Trichlorophenol	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-MW7OB-SEP2020	N	2,4-Dichlorophenol	9.30	7.00 UMM	7.00 X		ug/l	M/I
NHFLA-MW7OB-SEP2020	N	2,4-Dimethylphenol	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-MW7OB-SEP2020	N	2,4-Dinitrophenol	23.0	18.0 U	18.0 X		ug/l	I

Table of All Qualified Results

Test Method: SW8270 Extraction Method: SW3510

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW7OB-SEP2020	N	2-Chlorophenol	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-MW7OB-SEP2020	N	2-Methylphenol (o-Cresol)	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-MW7OB-SEP2020	N	2-Nitrophenol	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-MW7OB-SEP2020	N	4,6-Dinitro-2-methylphenol	23.0	18.0 U	18.0 X		ug/l	I
NHFLA-MW7OB-SEP2020	N	4-Chloro-3-methylphenol	9.30	7.00 UMM	7.00 X		ug/l	M/I
NHFLA-MW7OB-SEP2020	N	4-Nitrophenol	23.0	18.0 U	18.0 X		ug/l	I
NHFLA-MW7OB-SEP2020	N	Atrazine	9.30	7.00 U	7.00 U		ug/l	I
NHFLA-MW7OB-SEP2020	N	Cresols, m- & p-	9.30	7.00 UMM	7.00 X		ug/l	M/I
NHFLA-MW7OB-SEP2020	N	Pentachlorophenol	23.0	18.0 U	18.0 X		ug/l	I
NHFLA-MW7OB-SEP2020	N	Phenol	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-MW7OB-SEP2020	N	2-Nitroaniline	23.0	18.0 UM	18.0 UJ		ug/l	M
NHFLA-MW7OB-SEP2020	N	3-Nitroaniline	23.0	18.0 UMM	18.0 UJ		ug/l	M
NHFLA-MW7OB-SEP2020	N	4-Chloroaniline	9.30	7.00 UMM	7.00 UJ		ug/l	M
NHFLA-MW7OB-SEP2020	N	Bis(2-chloroethoxy)methane	9.30	7.00 U	7.00 UJ		ug/l	M
NHFLA-MW7OB-SEP2020	N	Bis(2-ethylhexyl)phthalate	9.30	7.00 UM	7.00 UJ		ug/l	M
NHFLA-MW7OB-SEP2020	N	Hexachlorobenzene	9.30	7.00 UM	7.00 UJ		ug/l	M
NHFLA-MW7OB-SEP2020	N	3,3'-Dichlorobenzidine	9.30	7.00 UMM	7.00 UJ		ug/l	M
NHFLA-MW7OB-SEP2020	N	Caprolactam	9.30	7.00 UM	7.00 UJ		ug/l	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW6020, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW4BR-SEP2020	N	Copper	6.00	6.00	6.00 J	6.00 U	V
NHFLA-MW4OB-SEP2020	N	Aluminum	100	19.0 J	40.0 U	40.0 U	L
NHFLA-MW4OB-SEP2020	N	Antimony	1.00	0.0980 J	0.0980 J	0.500 U	L
NHFLA-MW4OB-SEP2020	N	Cadmium	1.00	0.0920 J	0.0920 J	0.200 U	L
NHFLA-MW4OB-SEP2020	N	Chromium	5.00	0.750 J	4.00 U	4.00 U	L
NHFLA-MW4OB-SEP2020	N	Selenium	5.00	0.230 J	0.230 J	3.00 U	L
NHFLA-MW5BR-SEP2020	N	Aluminum	100	80.0 J	100 U	80.0 J	TR
NHFLA-MW5BR-SEP2020	N	Copper	3.73	3.73	3.73 J	3.73 U	L
NHFLA-MW5BR-SEP2020	N	Iron	100	86.0 J	100 U	100 U	L
NHFLA-MW5BR-SEP2020	N	Selenium	5.00	1.40 J	3.00 U	1.40 J	TR
NHFLA-MW7OB-SEP2020	N	Aluminum	100	59.1 J	100 U	59.1 J	TR
NHFLA-MW7OB-SEP2020	N	Iron	100	90.0 J	100 U	100 U	L

Modified Qualifiers for test method SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB22-SEP2020	EB	Sodium	1000	806 J	1000 U	806 J	TR
NHFLA-MW4BR-SEP2020	N	Beryllium	1.00	0.370 J	1.00 U	0.370 J	TR
NHFLA-MW4BR-SEP2020	N	Cadmium	1.00	0.479 J	1.00 U	0.479 J	TR
NHFLA-MW4OB-SEP2020	N	Copper	3.00	2.76 J	3.00 U	3.00 U	V
NHFLA-MW5BR-SEP2020	N	Chromium	5.00	2.66 J	4.00 U	4.00 U	V
NHFLA-MW5BR-SEP2020	N	Copper	5.20	5.20	5.20 J	5.20 U	L
NHFLA-MW7OB-SEP2020	N	Chromium	5.00	1.60 J	4.00 U	4.00 U	V

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW4BR-SEP2020	N	Acetone	26.0	26.0	26.0 J	26.0 U	V

Modified Qualifiers for test method SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW4BR-SEP2020	N	2,3,4,6-Tetrachlorophenol	11.0	8.40 U	8.40 UJ	8.40 U	
NHFLA-MW4BR-SEP2020	N	2,4,5-Trichlorophenol	28.0	21.0 U	21.0 UJ	21.0 U	
NHFLA-MW4BR-SEP2020	N	2,4,6-Trichlorophenol	11.0	8.40 U	8.40 UJ	8.40 U	
NHFLA-MW4BR-SEP2020	N	2,4-Dichlorophenol	11.0	8.40 U	8.40 UJ	8.40 U	
NHFLA-MW4BR-SEP2020	N	2,4-Dimethylphenol	11.0	8.40 U	8.40 UJ	8.40 U	
NHFLA-MW4BR-SEP2020	N	2,4-Dinitrophenol	28.0	21.0 U	21.0 UJ	21.0 U	
NHFLA-MW4BR-SEP2020	N	2-Chlorophenol	11.0	8.40 U	8.40 UJ	8.40 U	
NHFLA-MW4BR-SEP2020	N	2-Methylphenol (o-Cresol)	11.0	8.40 U	8.40 UJ	8.40 U	
NHFLA-MW4BR-SEP2020	N	2-Nitrophenol	11.0	8.40 U	8.40 UJ	8.40 U	
NHFLA-MW4BR-SEP2020	N	4,6-Dinitro-2-methylphenol	28.0	21.0 U	21.0 UJ	21.0 U	
NHFLA-MW4BR-SEP2020	N	4-Chloro-3-methylphenol	11.0	8.40 U	8.40 UJ	8.40 U	
NHFLA-MW4BR-SEP2020	N	4-Nitrophenol	28.0	21.0 U	21.0 UJ	21.0 U	
NHFLA-MW4BR-SEP2020	N	Cresols, m- & p-	11.0	8.40 U	8.40 UJ	8.40 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW4BR-SEP2020	N	Pentachlorophenol	28.0	21.0 U	21.0 UJ	21.0 U	
NHFLA-MW4BR-SEP2020	N	Phenol	11.0	8.40 U	8.40 UJ	8.40 U	
NHFLA-MW4OB-SEP2020	N	1,2,4,5-Tetrachlorobenzene	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	1,4-Dioxane (p-Dioxane)	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	2,2'-Oxybis(1-chloropropane)	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	2,4-Dinitrotoluene	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	2,6-Dinitrotoluene	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	2-Chloronaphthalene	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	2-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	
NHFLA-MW4OB-SEP2020	N	3,3'-Dichlorobenzidine	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	3-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	
NHFLA-MW4OB-SEP2020	N	4-Bromophenyl phenyl ether	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	4-Chloroaniline	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	4-Chlorophenyl phenyl ether	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	4-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	
NHFLA-MW4OB-SEP2020	N	Acetophenone	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	Atrazine	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	Benzaldehyde	9.60	7.20 UL	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	Benzyl butyl phthalate	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	Biphenyl (Diphenyl)	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	Bis(2-chloroethoxy)methane	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	Bis(2-ethylhexyl)phthalate	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	Caprolactam	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	Carbazole	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	Dibenzofuran	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	Diethyl phthalate	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	Dimethyl phthalate	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	Di-n-butyl phthalate	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	di-n-Octyl phthalate	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	Hexachlorobenzene	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	Hexachlorobutadiene	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	Hexachlorocyclopentadiene	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	Hexachloroethane	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	Isophorone	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	Nitrobenzene	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	N-Nitrosodi-n-propylamine	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-MW4OB-SEP2020	N	N-Nitrosodiphenylamine	9.60	7.20 U	7.20 X	7.20 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW7OB-SEP2020	N	1,2,4,5-Tetrachlorobenzene	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW7OB-SEP2020	N	1,4-Dioxane (p-Dioxane)	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW7OB-SEP2020	N	2,2'-Oxybis(1-chloropropane)	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW7OB-SEP2020	N	2,4-Dinitrotoluene	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW7OB-SEP2020	N	2,6-Dinitrotoluene	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW7OB-SEP2020	N	2-Chloronaphthalene	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW7OB-SEP2020	N	2-Nitroaniline	23.0	18.0 UM	18.0 X	18.0 UJ	M
NHFLA-MW7OB-SEP2020	N	3,3'-Dichlorobenzidine	9.30	7.00 UMM	7.00 X	7.00 UJ	M
NHFLA-MW7OB-SEP2020	N	3-Nitroaniline	23.0	18.0 UMM	18.0 X	18.0 UJ	M
NHFLA-MW7OB-SEP2020	N	4-Bromophenyl phenyl ether	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW7OB-SEP2020	N	4-Chloroaniline	9.30	7.00 UMM	7.00 X	7.00 UJ	M
NHFLA-MW7OB-SEP2020	N	4-Chlorophenyl phenyl ether	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW7OB-SEP2020	N	4-Nitroaniline	23.0	18.0 U	18.0 X	18.0 U	
NHFLA-MW7OB-SEP2020	N	Acetophenone	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW7OB-SEP2020	N	Atrazine	9.30	7.00 U	7.00 X	7.00 U	I
NHFLA-MW7OB-SEP2020	N	Benzaldehyde	9.30	7.00 ULMM	7.00 X	7.00 U	
NHFLA-MW7OB-SEP2020	N	Benzyl butyl phthalate	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW7OB-SEP2020	N	Biphenyl (Diphenyl)	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW7OB-SEP2020	N	Bis(2-chloroethoxy)methane	9.30	7.00 U	7.00 X	7.00 UJ	M
NHFLA-MW7OB-SEP2020	N	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW7OB-SEP2020	N	Bis(2-ethylhexyl)phthalate	9.30	7.00 UM	7.00 X	7.00 UJ	M
NHFLA-MW7OB-SEP2020	N	Caprolactam	9.30	7.00 UM	7.00 X	7.00 UJ	M
NHFLA-MW7OB-SEP2020	N	Carbazole	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW7OB-SEP2020	N	Dibenzofuran	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW7OB-SEP2020	N	Diethyl phthalate	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW7OB-SEP2020	N	Dimethyl phthalate	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW7OB-SEP2020	N	Di-n-butyl phthalate	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW7OB-SEP2020	N	di-n-Octyl phthalate	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW7OB-SEP2020	N	Hexachlorobenzene	9.30	7.00 UM	7.00 X	7.00 UJ	M
NHFLA-MW7OB-SEP2020	N	Hexachlorobutadiene	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW7OB-SEP2020	N	Hexachlorocyclopentadiene	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW7OB-SEP2020	N	Hexachloroethane	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW7OB-SEP2020	N	Isophorone	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW7OB-SEP2020	N	Nitrobenzene	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW7OB-SEP2020	N	N-Nitrosodi-n-propylamine	9.30	7.00 U	7.00 X	7.00 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW7OB-SEP2020	N	N-Nitrosodiphenylamine	9.30	7.00 U	7.00 X	7.00 U	

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Rejected Results

Test Method: SW8270	Extraction Method: SW3510	Leach Method: NONE							
FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-MW4OB-SEP2020	SN8174-1	W	N	2,3,4,6-Tetrachlorophenol	9.60	7.20 U	7.20 X	ug/l	I
NHFLA-MW4OB-SEP2020	SN8174-1	W	N	2,4,5-Trichlorophenol	24.0	18.0 U	18.0 X	ug/l	I
NHFLA-MW4OB-SEP2020	SN8174-1	W	N	2,4,6-Trichlorophenol	9.60	7.20 U	7.20 X	ug/l	I
NHFLA-MW4OB-SEP2020	SN8174-1	W	N	2,4-Dichlorophenol	9.60	7.20 U	7.20 X	ug/l	I
NHFLA-MW4OB-SEP2020	SN8174-1	W	N	2,4-Dimethylphenol	9.60	7.20 U	7.20 X	ug/l	I
NHFLA-MW4OB-SEP2020	SN8174-1	W	N	2,4-Dinitrophenol	24.0	18.0 U	18.0 X	ug/l	I
NHFLA-MW4OB-SEP2020	SN8174-1	W	N	2-Chlorophenol	9.60	7.20 U	7.20 X	ug/l	I
NHFLA-MW4OB-SEP2020	SN8174-1	W	N	2-Methylphenol (o-Cresol)	9.60	7.20 U	7.20 X	ug/l	I
NHFLA-MW4OB-SEP2020	SN8174-1	W	N	2-Nitrophenol	9.60	7.20 U	7.20 X	ug/l	I
NHFLA-MW4OB-SEP2020	SN8174-1	W	N	4,6-Dinitro-2-methylphenol	24.0	18.0 U	18.0 X	ug/l	I
NHFLA-MW4OB-SEP2020	SN8174-1	W	N	4-Chloro-3-methylphenol	9.60	7.20 U	7.20 X	ug/l	I
NHFLA-MW4OB-SEP2020	SN8174-1	W	N	4-Nitrophenol	24.0	18.0 U	18.0 X	ug/l	I
NHFLA-MW4OB-SEP2020	SN8174-1	W	N	Cresols, m- & p-	9.60	7.20 U	7.20 X	ug/l	I
NHFLA-MW4OB-SEP2020	SN8174-1	W	N	Pentachlorophenol	24.0	18.0 U	18.0 X	ug/l	I
NHFLA-MW4OB-SEP2020	SN8174-1	W	N	Phenol	9.60	7.20 U	7.20 X	ug/l	I
NHFLA-MW7OB-SEP2020	SN8174-9	W	N	2,3,4,6-Tetrachlorophenol	9.30	7.00 U	7.00 X	ug/l	I
NHFLA-MW7OB-SEP2020	SN8174-9	W	N	2,4,5-Trichlorophenol	23.0	18.0 UMM	18.0 X	ug/l	M/I
NHFLA-MW7OB-SEP2020	SN8174-9	W	N	2,4,6-Trichlorophenol	9.30	7.00 U	7.00 X	ug/l	I
NHFLA-MW7OB-SEP2020	SN8174-9	W	N	2,4-Dichlorophenol	9.30	7.00 UMM	7.00 X	ug/l	M/I
NHFLA-MW7OB-SEP2020	SN8174-9	W	N	2,4-Dimethylphenol	9.30	7.00 U	7.00 X	ug/l	I
NHFLA-MW7OB-SEP2020	SN8174-9	W	N	2,4-Dinitrophenol	23.0	18.0 U	18.0 X	ug/l	I
NHFLA-MW7OB-SEP2020	SN8174-9	W	N	2-Chlorophenol	9.30	7.00 U	7.00 X	ug/l	I
NHFLA-MW7OB-SEP2020	SN8174-9	W	N	2-Methylphenol (o-Cresol)	9.30	7.00 U	7.00 X	ug/l	I
NHFLA-MW7OB-SEP2020	SN8174-9	W	N	2-Nitrophenol	9.30	7.00 U	7.00 X	ug/l	I
NHFLA-MW7OB-SEP2020	SN8174-9	W	N	4,6-Dinitro-2-methylphenol	23.0	18.0 U	18.0 X	ug/l	I
NHFLA-MW7OB-SEP2020	SN8174-9	W	N	4-Chloro-3-methylphenol	9.30	7.00 UMM	7.00 X	ug/l	M/I

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C02NY0079-02, Nike BU 51/52, Launch Area
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Rejected Results

Test Method: SW8270	Extraction Method: SW3510	Leach Method: NONE							
FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-MW7OB-SEP2020	SN8174-9	W	N	4-Nitrophenol	23.0	18.0 U	18.0 X	ug/l	I
NHFLA-MW7OB-SEP2020	SN8174-9	W	N	Cresols, m- & p-	9.30	7.00 UMM	7.00 X	ug/l	M/I
NHFLA-MW7OB-SEP2020	SN8174-9	W	N	Pentachlorophenol	23.0	18.0 U	18.0 X	ug/l	I
NHFLA-MW7OB-SEP2020	SN8174-9	W	N	Phenol	9.30	7.00 U	7.00 X	ug/l	I

Automated Data Review Detail Report for SN8174
C02NY0079-02, Nike BU 51/52, Launch Area
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Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
A2340B/METHOD/NONE	5	5
BNASIM/SW3510/NONE	1	6
SW8260/SW5030/NONE	1	1
SW8270/SW3510/NONE	1	31

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
A2340B/METHOD/NONE	NHFLA-EB22-SEP2020	EB	5	Hardness (as CaCO3)	220 J	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW4BR-SEP2020	N	5	Hardness (as CaCO3)	375000	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW4OB-SEP2020	N	5	Hardness (as CaCO3)	276000	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW5BR-SEP2020	N	5	Hardness (as CaCO3)	327000	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW7OB-SEP2020	N	5	Hardness (as CaCO3)	20300	85.0	530	650	5	ug/L

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
BNASIM/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	Benzo(a)anthracene	0.110 UJ	0.0520	0.110	0.220	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	Benzo(a)pyrene	0.110 UJ	0.0740	0.110	0.220	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	Benzo(b)fluoranthene	0.110 UJ	0.100	0.110	0.220	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	Dibenz(a,h)anthracene	0.110 UJ	0.0790	0.110	0.220	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	Indeno(1,2,3-c,d)pyrene	0.110 UJ	0.0580	0.110	0.220	0.2	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
BNASIM/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	Naphthalene	0.110 UJ	0.0720	0.110	0.220	0.2	ug/L

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8260/SW5030/NONE	NHFLA-MW5BR-SEP2020	N	2	Benzene	210	0.520	1.00	2.00	1	ug/L

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	1,2,4,5-Tetrachlorobenzene	8.40 UJ	2.00	8.40	11.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	1,4-Dioxane (p-Dioxane)	8.40 UJ	2.00	8.40	11.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	2,3,4,6-Tetrachlorophenol	8.40 U	3.00	8.40	11.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	2,4,6-Trichlorophenol	8.40 U	3.00	8.40	11.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	2,4-Dichlorophenol	8.40 U	3.40	8.40	11.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	2,4-Dinitrophenol	21.0 U	1.10	21.0	28.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	2,4-Dinitrotoluene	8.40 UJ	2.50	8.40	11.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	2,6-Dinitrotoluene	8.40 UJ	2.20	8.40	11.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	2-Chlorophenol	8.40 U	3.60	8.40	11.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	2-Nitroaniline	21.0 UJ	2.00	21.0	28.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	3,3'-Dichlorobenzidine	8.40 UJ	1.20	8.40	11.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	4,6-Dinitro-2-methylphenol	21.0 U	2.20	21.0	28.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	4-Chloroaniline	8.40 UJ	2.10	8.40	11.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	4-Nitroaniline	21.0 UJ	1.80	21.0	28.0	25	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Automated Data Review Detail Report for SN8174
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	Atrazine	8.40 UJ	3.70	8.40	11.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	Benzaldehyde	8.40 UJ	1.10	8.40	11.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	Benzyl butyl phthalate	8.40 UJ	2.10	8.40	11.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	Biphenyl (Diphenyl)	8.40 UJ	3.00	8.40	11.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	bis(2-Chloroethoxy) methane	8.40 UJ	2.40	8.40	11.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	8.40 UJ	2.20	8.40	11.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	bis(2-Ethylhexyl) phthalate	8.40 UJ	1.90	8.40	11.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	Dibenzofuran	8.40 UJ	1.80	8.40	11.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	Di-n-octyl phthalate	8.40 UJ	2.00	8.40	11.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	Hexachlorobenzene	8.40 UJ	2.40	8.40	11.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	Hexachlorobutadiene	8.40 UJ	2.00	8.40	11.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	Hexachlorocyclopentadiene	8.40 UJ	1.30	8.40	11.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	Hexachloroethane	8.40 UJ	2.60	8.40	11.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	Nitrobenzene	8.40 UJ	3.50	8.40	11.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	n-Nitrosodi-n-propylamine	8.40 UJ	2.20	8.40	11.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	n-Nitrosodiphenylamine	8.40 UJ	4.20	8.40	11.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-SEP2020	N	1	Pentachlorophenol	21.0 U	2.60	21.0	28.0	25	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
C	LCS Recovery
D	MS RPD
I	Surrogate recovery outside project limits.
L	Lab Blank
M	MS Recovery
TR	Trace Level Detect
V	Equipment Blank

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: A2340B (Hardness by Calculation)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?		•		equipment blank 220J mg/l hardness
Was an LCS/LCSD pair prepared and analyzed with each batch?			•	
Were LCS/LCSD recoveries within project acceptance limits?			•	
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: BNASIM (GC/MS-SIM Analysis by SW8270)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Surrogates biased low for 3 of 3 in sample -005 and biased low for 1 of 3 in sample -003. All results for these samples were qualified estimated with UJ flags if non-detect and J flags if detected with I reason codes. NOTE sample -009 MS surrogates were biased high for 1 of 3 surrogates which did not require qualification.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?		•		Equipment blank had a detection for 2-methylnaphthalene. Sample -001 result for this analyte qualified as estimated with J/V flag/reason code.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?		•		Sample -009 MS/MSD RPD's were outliers for multiple analytes. All associated analytes were qualified with D reason codes and flagged as estimated if detected above LOQ.
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		ICV outlier issues noted in case narrative were not addressed as part of this stage 2A validation review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data rejected during the verification process?		•		

Review Questions

Method: SW6020 (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		Multiple prep blanks in addition to the field blanks noted below were used to qualify field results. Prep blanks for QC batch NJ14IMW1, NJ01MW2 associated with samples -001 and -002 and NJ01MW3 associated with samples -03 through -014. Field blanks include filter blank for dissolved metals results and equipment blanks for total and dissolved results. Field results that were qualified based on prep blanks include L reason codes and are noted in QC outlier summary tables.
Were target analytes in the field blank less than MDL?		•		Field blanks had multiple detections for filter blank as well as dissolved and total equipment blanks. Field results associated with field blank flags include V reason codes as noted in QC summary tables. NOTE filter blank and equipment blank detections were treated as QC sample results for this water field sample batch so were not qualified based on prep blank detections noted above.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only.
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -009 MS recoveries were outliers biased high for calcium, vanadium and zinc. Sample -009 calcium result was qualified J/M based on the MS high bias outlier. Vanadium and Zinc results were non-detect so did not require qualification. Samples -009 and -010 sodium MS recoveries were subject to the 4X rule so were not used for qualification.
Was the MS/MSD RPD within project acceptance limits?		•		Sample -009 MS/MSD RPD's were outliers for zinc and vanadium. Associated field results were no-detect so were not flagged based on these RPD outliers but were qualified with D reason codes.
Were the post spike recoveries within project acceptance limits?		•		Sodium PDS was an outlier but was not used to qualify results based on 4X rule criteria,
Were the serial dilution RPD values within project acceptance limits?	•			
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary

Review Questions

Method: SW6020 (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7196 (Chromium, Hexavalent (Colorimetric))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG287433 had detection below LOQ. Field samples -001, -003, -005, -009 were qualified as non-detect with U/L flags/reason codes.
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?	•			
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW7470 (Mercury in Liquid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW8260 (Volatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG288040 blank had detections below the LOQ for carbon disulfide. Field samples -003 and -005 were qualified as non-detect at the LOD or LOQ as required with U/L flags/reason codes for this analyte.
Were target analytes in the field blank less than MDL?		•		Equipment blank had detections below the LOQ for acetone and at the LOD for toluene. The 10X common lab contaminant rule was used for acetone. Samples -001, -003 and -009 acetone results and samples -001 and -003 toluene results were qualified as non-detect at the LOQ (adjusted where necessary for acetone) with U/V flags/reason codes. NOTE: equipment blank was treated as a QC sample for this water field sample batch so was not qualified based on prep blank detections noted above. Trip blanks (3) were all non-detect for all target analytes.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -009 MS recoveries were biased high for dichlorodifluoromethane, vinyl chloride, bromomethane, chloroethane, trichlorofluoromethane and biased low for methyl acetate. Field sample -009 was qualified as estimated with UJ/M flags/reason codes for methyl acetate only.
Was the MS/MSD RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Review Questions

Method: SW8270 (Semivolatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Samples -001 and -009 had 3 of 3 acid fraction surrogates biased low and below reject criteria. Acid fraction analyte field results in these samples were qualified as rejected with X/I flags/reason codes. Sample -003 surrogates were biased low for 1 of 3 base-neutral fraction surrogate so associated base-neutral fraction only field results were qualified estimated with UJ/I flag/reason codes. Sample -005 had 2 of 3 base-neutral and 1 of 3 acid fraction surrogates biased low so all sample -005 results were qualified estimated with UJ or J flags and I reason codes.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?		•		Equipment blank had a detection for benzaldehyde. Field samples -004 and -007 results for this analyte were qualified as non-detect at LOD with U/V flags/reason codes.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch WG287484 had a high bias for benzaldehyde and QC batch WG288184 (sample rerun batch) had a high bias for benzaldehyde and low bias for 2,2-oxybis(1-chloropropane). Qualifications were not required based on the LCS outliers for this batch since they were all associated with re-analysis data which was not reported as final data.
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -009 MS/MSD had multiple recovery outliers biased low and benzaldehyde recovery biased high. All associated sample -009 field results were qualified estimated with UJ or J flags and M reason codes.
Was the MS/MSD RPD within project acceptance limits?		•		Sample -009 MS/MSD RPD's were outliers for multiple analytes. Associated sample -009 field results were qualified with D reason codes.
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		ICAL, CCV and ICV outlier issues noted in case narrative were not addressed as part of this stage 2A validation review.
Were DoD QSM corrective actions followed if deviations were noted?		•		

Review Questions

Method: SW8270 (Semivolatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Were any data rejected during the verification process?	•			Samples -001 and -009 acid fraction analytes, sample -003 base-neutral fraction analytes and samples -005 all field sample results were qualified as rejected based on surrogate recovery outliers below lower reject criteria.

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Round Groundwater
SDG:	Sampling SN8209
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Katahdin Analytical Services, Westbrook, ME
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	January 28, 2021- Resubmitted February 11, 2021 - review checklist narration clarifications for hexavalent chromium and LOD/LOQ clarifications.

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	A2340B	BNASIM	SW6020	SW6020 - Dissolved	SW7196	SW7470	SW7470 - Dissolved	SW8260	SW8270
NHFLA-DUP13-SEP2020	SN8209-7	Water	Field Duplicate/FD	X	X	X		X	X		X	X
NHFLA-DUP13-SEP2020	SN8209-8	Water	Field Duplicate/FD				X			X		
NHFLA-EB23-SEP2020	SN8209-10	Water	Equipment Blank/EB				X			X		
NHFLA-EB23-SEP2020	SN8209-9	Water	Equipment Blank/EB	X	X	X		X	X		X	X
NHFLA-MW1BR-SEP2020	SN8209-3	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW1BR-SEP2020	SN8209-4	Water	Field Sample/N				X			X		
NHFLA-MW1OB-SEP2020	SN8209-1	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW1OB-SEP2020	SN8209-2	Water	Field Sample/N				X			X		
NHFLA-MW7BR-SEP2020	SN8209-5	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW7BR-SEP2020	SN8209-6	Water	Field Sample/N				X			X		
NHFLA-TB31-SEP2020	SN8209-11	Water	Trip Blank/TB								X	
NHFLA-TB32-SEP2020	SN8209-12	Water	Trip Blank/TB								X	

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Katahdin Analytical Services, Westbrook, ME and were reported under sample delivery group (SDG) SN8209. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Extracted Internal Standard
- Field Duplicate RPD
- Lab Blank
- LCS Recovery
- LCS RPD
- MS Recovery
- MS RPD
- Prep Hold Time
- Surrogate
- Test Hold Time
- Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 95 results (10.14%) out of the 937 results (sample and field QC samples) reported are qualified based on review and 0 results (0.00%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Analytical Method	Data Reviewer Comment
A2340B	No additional comments; see Checklist for detail.
BNASIM	No additional comments; see Checklist for detail.
SW6020	NOTE: The database included flags/qualifications based on using the field filter blank to qualify TOTAL METALS results as well as dissolved metals results. These flags were removed from total metals results where applicable. Also flags had to be edited so dissolved metals equipment blank and total metals equipment blank were only used to qualify total/dissolved field results as applicable.
SW7196	No additional comments; see Checklist for detail.
SW7470	No additional comments; see Checklist for detail.
SW8260	No additional comments; see Checklist for detail.
SW8270	No additional comments; see Checklist for detail.

Jim Tomalia

February 11, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method BNASIM, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB23-SEP2020 (EB)/ SN8209-9	2-Methylnaphthalene	0.1000	< 0.072	< 0.19	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP13-SEP2020	FD	2-Methylnaphthalene	0.200	0.120 J	0.200 U		ug/l	V
NHFLA-MW1BR-SEP2020	N	2-Methylnaphthalene	0.190	0.430	0.430 J	+	ug/l	V
NHFLA-MW1OB-SEP2020	N	2-Methylnaphthalene	0.190	0.250	0.250 J	+	ug/l	V
NHFLA-MW7BR-SEP2020	N	2-Methylnaphthalene	0.190	0.130 J	0.190 U		ug/l	V

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Dissolved, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB23-SEP2020 (EB)/ SN8209-10	Cadmium	0.04700	< 0.029	< 1	ug/l	U/None	V	
NHFLA-EB23-SEP2020 (EB)/ SN8209-10	Beryllium	0.04900	< 0.034	< 1	ug/l	U/None	V	
NHFLA-EB23-SEP2020 (EB)/ SN8209-10	Thallium	0.07100	< 0.06	< 1	ug/l	U/None	V	
NHFLA-EB23-SEP2020 (EB)/ SN8209-10	Cobalt	0.09900	< 0.06	< 1	ug/l	U/None	V	
NHFLA-EB23-SEP2020 (EB)/ SN8209-10	Antimony	0.1200	< 0.055	< 1	ug/l	U/None	V	
NHFLA-EB23-SEP2020 (EB)/ SN8209-10	Lead	0.2600	< 0.075	< 1	ug/l	U/None	V	
NHFLA-EB23-SEP2020 (EB)/ SN8209-10	Chromium	0.2800	< 0.22	< 5	ug/l	U/None	V	
NHFLA-EB23-SEP2020 (EB)/ SN8209-10	Manganese	1.200	< 0.35	< 2	ug/l	U/None	V	
NHFLA-EB23-SEP2020 (EB)/ SN8209-10	Barium	1.500	< 0.27	< 2	ug/l	U/None	V	
NHFLA-EB23-SEP2020 (EB)/ SN8209-10	Iron	14.00	< 13	< 100	ug/l	U/None	V	
NHFLA-EB23-SEP2020 (EB)/ SN8209-10	Magnesium	16.00	< 8	< 100	ug/l	U/None	V	
NHFLA-EB23-SEP2020 (EB)/ SN8209-10	Calcium	233.0	< 21	< 100	ug/l	U/None	V	
NHFLA-EB23-SEP2020 (EB)/ SN8209-10	Sodium	24.00	< 19	< 1000	ug/l	U/None	V	
NHFLA-EB23-SEP2020 (EB)/ SN8209-10	Zinc	18.00	< 3.9	< 10	ug/l	U/None	V	
NHFLA-EB23-SEP2020 (EB)/ SN8209-10	Copper	1.200	< 0.19	< 3	ug/l	U/None	V	
NHFLA-EB23-SEP2020 (EB)/ SN8209-10	Aluminum	177.0	< 4.4	< 100	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW6020, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP13-SEP2020	FD	Aluminum	100	166	166 J	+	ug/l	V
NHFLA-DUP13-SEP2020	FD	Antimony	1.00	0.220 J	0.500 U		ug/l	V
NHFLA-DUP13-SEP2020	FD	Chromium	5.00	0.410 J	4.00 U		ug/l	V
NHFLA-DUP13-SEP2020	FD	Cobalt	1.00	0.0840 J	0.300 U		ug/l	V/L
NHFLA-DUP13-SEP2020	FD	Copper	3.00	1.20 J	2.00 U		ug/l	V/L
NHFLA-DUP13-SEP2020	FD	Iron	100	34.0 J	60.0 U		ug/l	V/L
NHFLA-MW1BR-SEP2020	N	Aluminum	100	18.0 J	40.0 U		ug/l	V/L
NHFLA-MW1BR-SEP2020	N	Antimony	1.00	0.160 J	0.500 U		ug/l	V
NHFLA-MW1BR-SEP2020	N	Beryllium	1.00	0.0480 J	0.200 U		ug/l	V

Qualified Results associated with the Equipment Blank for SW6020, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW1BR-SEP2020	N	Chromium	5.00	0.570 J	4.00 U		ug/l	V
NHFLA-MW1BR-SEP2020	N	Cobalt	1.00	0.0970 J	0.300 U		ug/l	V
NHFLA-MW1BR-SEP2020	N	Copper	3.00	1.30 J	2.00 U		ug/l	V/L
NHFLA-MW1BR-SEP2020	N	Lead	1.00	0.120 J	0.500 U		ug/l	V/L
NHFLA-MW1BR-SEP2020	N	Zinc	10.0	41.5	41.5 J	+	ug/l	V
NHFLA-MW1OB-SEP2020	N	Aluminum	100	12.0 J	40.0 U		ug/l	V/L
NHFLA-MW1OB-SEP2020	N	Antimony	1.00	0.150 J	0.500 U		ug/l	V
NHFLA-MW1OB-SEP2020	N	Beryllium	1.00	0.0770 J	0.200 U		ug/l	V
NHFLA-MW1OB-SEP2020	N	Cadmium	1.00	0.0870 J	0.200 U		ug/l	V
NHFLA-MW1OB-SEP2020	N	Chromium	5.00	0.780 J	4.00 U		ug/l	V
NHFLA-MW1OB-SEP2020	N	Cobalt	1.00	0.480 J	1.00 U		ug/l	V
NHFLA-MW1OB-SEP2020	N	Copper	3.00	1.30 J	2.00 U		ug/l	V/L
NHFLA-MW1OB-SEP2020	N	Lead	1.00	0.0970 J	0.500 U		ug/l	V/L
NHFLA-MW1OB-SEP2020	N	Thallium	1.00	0.0630 J	0.400 U		ug/l	V
NHFLA-MW1OB-SEP2020	N	Zinc	10.0	11.0	11.0 J	+	ug/l	V
NHFLA-MW7BR-SEP2020	N	Aluminum	100	174	174 J	+	ug/l	V
NHFLA-MW7BR-SEP2020	N	Antimony	1.00	0.250 J	0.500 U		ug/l	V
NHFLA-MW7BR-SEP2020	N	Chromium	5.00	0.420 J	4.00 U		ug/l	V
NHFLA-MW7BR-SEP2020	N	Copper	3.00	1.30 J	2.00 U		ug/l	V/L
NHFLA-MW7BR-SEP2020	N	Iron	100	36.0 J	60.0 U		ug/l	V/L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Dissolved, Field Duplicate RPD

Field duplicate analyses are performed in order to assess sample collection/laboratory precision for each sample matrix. Summary forms were evaluated and compared to electronic data deliverables. Field duplicate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW7BR-SEP2020 (N)/ SN8209-8	Aluminum	166.0	< 100	< 100	ug/l	J/UJ	D3	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Field Duplicate RPD for SW6020, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP13-SEP2020	FD	Aluminum	100	71.0 J	100 UJ		ug/l	V/L/D3
NHFLA-MW7BR-SEP2020	N	Aluminum	100	237	237 J	+	ug/l	V/D3

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Dissolved, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
SN8209-13 (LB)/ SN8209-13	Nickel	0.2200	< 0.15	< 2	ug/l	U/None	L	
SN8209-13 (LB)/ SN8209-13	Lead	0.2500	< 0.075	< 1	ug/l	U/None	L	
SN8209-13 (LB)/ SN8209-13	Chromium	0.5500	< 0.22	< 5	ug/l	U/None	L	
SN8209-13 (LB)/ SN8209-13	Manganese	1.900	< 0.35	< 2	ug/l	U/None	L	
SN8209-13 (LB)/ SN8209-13	Magnesium	20.00	< 8	< 100	ug/l	U/None	L	
SN8209-13 (LB)/ SN8209-13	Barium	3.520	< 0.27	< 2	ug/l	U/None	L	
SN8209-13 (LB)/ SN8209-13	Aluminum	32.00	< 4.4	< 100	ug/l	U/None	L	
SN8209-13 (LB)/ SN8209-13	Calcium	48.00	< 21	< 100	ug/l	U/None	L	
SN8209-13 (LB)/ SN8209-13	Iron	485.0	< 13	< 100	ug/l	U/None	L	
SN8209-13 (LB)/ SN8209-13	Sodium	78.00	< 19	< 1000	ug/l	U/None	L	
SN8209-13 (LB)/ SN8209-13	Zinc	5.600	< 3.9	< 10	ug/l	U/None	L	
SN8209-13 (LB)/ SN8209-13	Copper	1.980	< 0.19	< 3	ug/l	U/None	L	
SN8209-14 (LB)/ SN8209-14	Cadmium	0.05500	< 0.029	< 1	ug/l	U/None	L	
SN8209-14 (LB)/ SN8209-14	Cobalt	0.07300	< 0.06	< 1	ug/l	U/None	L	
SN8209-14 (LB)/ SN8209-14	Chromium	0.2300	< 0.22	< 5	ug/l	U/None	L	
SN8209-14 (LB)/ SN8209-14	Barium	0.2700	< 0.27	< 2	ug/l	U/None	L	
SN8209-14 (LB)/ SN8209-14	Magnesium	13.00	< 8	< 100	ug/l	U/None	L	
SN8209-14 (LB)/ SN8209-14	Iron	19.00	< 13	< 100	ug/l	U/None	L	
SN8209-14 (LB)/ SN8209-14	Sodium	28.00	< 19	< 1000	ug/l	U/None	L	
SN8209-14 (LB)/ SN8209-14	Copper	0.6500	< 0.19	< 3	ug/l	U/None	L	
SN8209-14 (LB)/ SN8209-14	Aluminum	11.00	< 4.4	< 100	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6020, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP13-SEP2020	FD	Aluminum	100	71.0 J	100 UJ		ug/l	V/L/D3

Qualified Results associated with the Lab Blank for SW6020, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP13-SEP2020	FD	Chromium	5.00	0.320 J	4.00 U		ug/l	V/L
NHFLA-DUP13-SEP2020	FD	Cobalt	1.00	0.0840 J	0.300 U		ug/l	V/L
NHFLA-DUP13-SEP2020	FD	Copper	3.00	1.20 J	2.00 U		ug/l	V/L
NHFLA-DUP13-SEP2020	FD	Iron	100	34.0 J	60.0 U		ug/l	V/L
NHFLA-EB23-SEP2020	EB	Barium	2.00	1.50 J	2.00 U		ug/l	L
NHFLA-EB23-SEP2020	EB	Cadmium	1.00	0.0470 J	0.200 U		ug/l	L
NHFLA-EB23-SEP2020	EB	Chromium	5.00	0.280 J	4.00 U		ug/l	L
NHFLA-EB23-SEP2020	EB	Cobalt	1.00	0.0990 J	0.300 U		ug/l	L
NHFLA-EB23-SEP2020	EB	Copper	3.00	1.20 J	2.00 U		ug/l	L
NHFLA-EB23-SEP2020	EB	Iron	100	14.0 J	60.0 U		ug/l	L
NHFLA-EB23-SEP2020	EB	Magnesium	100	16.0 J	80.0 U		ug/l	L
NHFLA-EB23-SEP2020	EB	Sodium	1000	24.0 J	400 U		ug/l	L
NHFLA-MW1BR-SEP2020	N	Lead	1.00	0.120 J	0.500 U		ug/l	V/L
NHFLA-MW1BR-SEP2020	N	Nickel	2.00	0.330 J	1.20 U		ug/l	L
NHFLA-MW1BR-SEP2020	N	Aluminum	100	18.0 J	40.0 U		ug/l	V/L
NHFLA-MW1BR-SEP2020	N	Chromium	5.00	0.520 J	4.00 U		ug/l	V/L
NHFLA-MW1BR-SEP2020	N	Copper	3.00	1.30 J	2.00 U		ug/l	V/L
NHFLA-MW1BR-SEP2020	N	Iron	100	328	328 J	+	ug/l	L
NHFLA-MW1OB-SEP2020	N	Lead	1.00	0.0970 J	0.500 U		ug/l	V/L
NHFLA-MW1OB-SEP2020	N	Nickel	2.00	0.830 J	1.20 U		ug/l	L
NHFLA-MW1OB-SEP2020	N	Aluminum	100	12.0 J	40.0 U		ug/l	V/L
NHFLA-MW1OB-SEP2020	N	Chromium	5.00	0.670 J	4.00 U		ug/l	V/L
NHFLA-MW7BR-SEP2020	N	Chromium	5.00	0.310 J	4.00 U		ug/l	V/L
NHFLA-MW7BR-SEP2020	N	Copper	3.00	1.30 J	2.00 U		ug/l	V/L
NHFLA-MW7BR-SEP2020	N	Iron	100	36.0 J	60.0 U		ug/l	V/L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB23-SEP2020 (EB)/ SN8209-9	Barium	0.3100	< 0.27	< 2	ug/l	U/None	V	
NHFLA-EB23-SEP2020 (EB)/ SN8209-9	Chromium	0.4100	< 0.22	< 5	ug/l	U/None	V	
NHFLA-EB23-SEP2020 (EB)/ SN8209-9	Manganese	1.200	< 0.35	< 2	ug/l	U/None	V	
NHFLA-EB23-SEP2020 (EB)/ SN8209-9	Sodium	110.0	< 19	< 1000	ug/l	U/None	V	
NHFLA-EB23-SEP2020 (EB)/ SN8209-9	Magnesium	12.00	< 8	< 100	ug/l	U/None	V	
NHFLA-EB23-SEP2020 (EB)/ SN8209-9	Iron	26.00	< 13	< 100	ug/l	U/None	V	
NHFLA-EB23-SEP2020 (EB)/ SN8209-9	Zinc	14.00	< 3.9	< 10	ug/l	U/None	V	
NHFLA-EB23-SEP2020 (EB)/ SN8209-9	Copper	0.6600	< 0.19	< 3	ug/l	U/None	V	
NHFLA-EB23-SEP2020 (EB)/ SN8209-9	Aluminum	90.40	< 4.4	< 100	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP13-SEP2020	FD	Aluminum	100	166	166 J	+	ug/l	V
NHFLA-DUP13-SEP2020	FD	Chromium	5.00	0.410 J	4.00 U		ug/l	V
NHFLA-DUP13-SEP2020	FD	Copper	3.00	1.20 J	2.00 U		ug/l	V/L
NHFLA-DUP13-SEP2020	FD	Iron	100	34.0 J	60.0 U		ug/l	V/L
NHFLA-MW1BR-SEP2020	N	Aluminum	100	18.0 J	40.0 U		ug/l	V/L
NHFLA-MW1BR-SEP2020	N	Chromium	5.00	0.570 J	4.00 U		ug/l	V
NHFLA-MW1BR-SEP2020	N	Copper	3.00	1.30 J	2.00 U		ug/l	V/L
NHFLA-MW1BR-SEP2020	N	Zinc	10.0	41.5	41.5 J	+	ug/l	V
NHFLA-MW1OB-SEP2020	N	Aluminum	100	12.0 J	40.0 U		ug/l	V/L
NHFLA-MW1OB-SEP2020	N	Chromium	5.00	0.780 J	4.00 U		ug/l	V
NHFLA-MW1OB-SEP2020	N	Copper	3.00	1.30 J	2.00 U		ug/l	V/L
NHFLA-MW1OB-SEP2020	N	Zinc	10.0	11.0	11.0 J	+	ug/l	V
NHFLA-MW7BR-SEP2020	N	Aluminum	100	174	174 J	+	ug/l	V
NHFLA-MW7BR-SEP2020	N	Chromium	5.00	0.420 J	4.00 U		ug/l	V
NHFLA-MW7BR-SEP2020	N	Copper	3.00	1.30 J	2.00 U		ug/l	V/L
NHFLA-MW7BR-SEP2020	N	Iron	100	36.0 J	60.0 U		ug/l	V/L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNJ12IMW1 (LB)/ PBWNJ12IMW1	Cadmium	0.03600	< 0.03	< 1	ug/l	U/None	L	
PBWNJ12IMW1 (LB)/ PBWNJ12IMW1	Beryllium	0.05200	< 0.034	< 1	ug/l	U/None	L	
PBWNJ12IMW1 (LB)/ PBWNJ12IMW1	Cobalt	0.06300	< 0.061	< 1	ug/l	U/None	L	
PBWNJ12IMW1 (LB)/ PBWNJ12IMW1	Barium	0.3900	< 0.27	< 2	ug/l	U/None	L	
PBWNJ12IMW1 (LB)/ PBWNJ12IMW1	Vanadium	0.5300	< 0.51	< 5	ug/l	U/None	L	
PBWNJ12IMW1 (LB)/ PBWNJ12IMW1	Aluminum	10.00	< 4.4	< 100	ug/l	U/None	L	
PBWNJ12IMW1 (LB)/ PBWNJ12IMW1	Iron	14.00	< 13	< 100	ug/l	U/None	L	
PBWNJ12IMW1 (LB)/ PBWNJ12IMW1	Magnesium	15.00	< 7.8	< 100	ug/l	U/None	L	
PBWNJ12IMW1 (LB)/ PBWNJ12IMW1	Sodium	30.00	< 19	< 1000	ug/l	U/None	L	
PBWNJ12IMW1 (LB)/ PBWNJ12IMW1	Calcium	35.00	< 20	< 100	ug/l	U/None	L	
PBWNJ12IMW1 (LB)/ PBWNJ12IMW1	Copper	0.7800	< 0.18	< 3	ug/l	U/None	L	
PBWNJ12IMW2 (LB)/ PBWNJ12IMW2	Barium	0.3000	< 0.27	< 2	ug/l	U/None	L	
PBWNJ12IMW2 (LB)/ PBWNJ12IMW2	Manganese	0.4100	< 0.35	< 2	ug/l	U/None	L	
PBWNJ12IMW2 (LB)/ PBWNJ12IMW2	Magnesium	16.00	< 7.8	< 100	ug/l	U/None	L	
PBWNJ12IMW2 (LB)/ PBWNJ12IMW2	Iron	39.00	< 13	< 100	ug/l	U/None	L	
PBWNJ12IMW2 (LB)/ PBWNJ12IMW2	Copper	0.7700	< 0.18	< 3	ug/l	U/None	L	
PBWNJ12IMW2 (LB)/ PBWNJ12IMW2	Aluminum	9.500	< 4.4	< 100	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP13-SEP2020	FD	Cobalt	1.00	0.120 J	0.300 U		ug/l	L
NHFLA-DUP13-SEP2020	FD	Iron	100	85.0 J	100 U		ug/l	V/L
NHFLA-DUP13-SEP2020	FD	Copper	3.00	1.30 J	2.00 U		ug/l	V/L
NHFLA-EB23-SEP2020	EB	Aluminum	100	90.4 J	100 U		ug/l	L
NHFLA-EB23-SEP2020	EB	Iron	100	26.0 J	60.0 U		ug/l	L
NHFLA-EB23-SEP2020	EB	Magnesium	100	12.0 J	80.0 U		ug/l	L
NHFLA-EB23-SEP2020	EB	Barium	2.00	0.310 J	1.00 U		ug/l	L

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB23-SEP2020	EB	Copper	3.00	0.660 J	2.00 U		ug/l	L
NHFLA-EB23-SEP2020	EB	Manganese	2.00	1.20 J	2.00 U		ug/l	L
NHFLA-MW1BR-SEP2020	N	Aluminum	100	70.5 J	100 U		ug/l	V/L
NHFLA-MW1BR-SEP2020	N	Beryllium	1.00	0.0910 J	0.200 U		ug/l	L
NHFLA-MW1BR-SEP2020	N	Cobalt	1.00	0.100 J	0.300 U		ug/l	L
NHFLA-MW1BR-SEP2020	N	Vanadium	5.00	2.40 J	4.00 U		ug/l	L
NHFLA-MW1BR-SEP2020	N	Copper	3.00	1.40 J	2.00 U		ug/l	V/L
NHFLA-MW1OB-SEP2020	N	Beryllium	1.00	0.120 J	0.200 U		ug/l	L
NHFLA-MW1OB-SEP2020	N	Cadmium	1.00	0.0630 J	0.200 U		ug/l	L
NHFLA-MW1OB-SEP2020	N	Cobalt	1.00	0.370 J	1.00 U		ug/l	L
NHFLA-MW1OB-SEP2020	N	Vanadium	5.00	1.90 J	4.00 U		ug/l	L
NHFLA-MW1OB-SEP2020	N	Copper	3.00	1.30 J	2.00 U		ug/l	V/L
NHFLA-MW7BR-SEP2020	N	Beryllium	1.00	0.0740 J	0.200 U		ug/l	L
NHFLA-MW7BR-SEP2020	N	Cadmium	1.00	0.0500 J	0.200 U		ug/l	L
NHFLA-MW7BR-SEP2020	N	Cobalt	1.00	0.160 J	0.300 U		ug/l	L
NHFLA-MW7BR-SEP2020	N	Iron	100	86.0 J	100 U		ug/l	V/L
NHFLA-MW7BR-SEP2020	N	Copper	3.00	1.50 J	2.00 U		ug/l	V/L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW1OB-SEP2020 (SD)/ SN8209-001P	Iron	290.0	87 - 118	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-MW1OB-SEP2020 (SD)/ SN8209-001P	Calcium	320.0	87 - 118	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-MW1OB-SEP2020 (MS)/ SN8209-001S	Magnesium	120.0	83 - 118	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-MW1OB-SEP2020 (MS)/ SN8209-001S	Aluminum	122.2	84 - 117	30 - 125	percent	J/None	M	
NHFLA-MW1OB-SEP2020 (MS)/ SN8209-001S	Sodium	125.3	85 - 117	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-MW1OB-SEP2020 (MS)/ SN8209-001S	Iron	150.0	87 - 118	30 - 125	percent	J/None	M	Spike amount Insignificant
NHFLA-MW1OB-SEP2020 (MS)/ SN8209-001S	Calcium	160.0	87 - 118	30 - 125	percent	J/None	M	Spike amount Insignificant

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW1OB-SEP2020	N	Aluminum	100	106 NA	106 J	+	ug/l	V/M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB23-SEP2020 (EB)/ SN8209-9	Chromium, Hexavalent	0.006500	< 0.00076	< 0.025	mg/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP13-SEP2020	FD	Chromium, Hexavalent	0.0250	0.00880 J	0.0125 UJ		mg/l	V/L/H1
NHFLA-MW1BR-SEP2020	N	Chromium, Hexavalent	0.0250	0.00590 J	0.0125 U		mg/l	V/L
NHFLA-MW1OB-SEP2020	N	Chromium, Hexavalent	0.0250	0.0190 J	0.0250 U		mg/l	V/L
NHFLA-MW7BR-SEP2020	N	Chromium, Hexavalent	0.0250	0.00340 J	0.0125 UJ		mg/l	V/L/H1

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG287431-1 (LB)/ WG287431-1	Chromium, Hexavalent	0.003800	< 0.00076	< 0.025	mg/l	U/None	L	
WG287522-1 (LB)/ WG287522-1	Chromium, Hexavalent	0.002700	< 0.00076	< 0.025	mg/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP13-SEP2020	FD	Chromium, Hexavalent	0.0250	0.00880 J	0.0125 UJ		mg/l	V/L/H1
NHFLA-EB23-SEP2020	EB	Chromium, Hexavalent	0.0250	0.00650 J	0.0125 UJ		mg/l	L/H1
NHFLA-MW1BR-SEP2020	N	Chromium, Hexavalent	0.0250	0.00590 J	0.0125 U		mg/l	V/L
NHFLA-MW1OB-SEP2020	N	Chromium, Hexavalent	0.0250	0.0190 J	0.0250 U		mg/l	V/L
NHFLA-MW7BR-SEP2020	N	Chromium, Hexavalent	0.0250	0.00340 J	0.0125 UJ		mg/l	V/L/H1

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-DUP13-SEP2020 (FD)/ SN8209-7		46.03	< 24	< 48	hours	J/UJ	H1	Test Exceeds UWL
NHFLA-EB23-SEP2020 (EB)/ SN8209-9		45.03	< 24	< 48	hours	J/UJ	H1	Test Exceeds UWL
NHFLA-EB23-SEP2020 (EB)/ WG287522-4		45.03	< 24	< 48	hours	J/UJ	H1	Test Exceeds UWL
NHFLA-MW7BR-SEP2020 (N)/ SN8209-5		45.95	< 24	< 48	hours	J/UJ	H1	Test Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Test Hold Time for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP13-SEP2020	FD	Chromium, Hexavalent	0.0250	0.00880 J	0.0125 UJ		mg/l	V/L/H1
NHFLA-EB23-SEP2020	EB	Chromium, Hexavalent	0.0250	0.00650 J	0.0125 UJ		mg/l	L/H1
NHFLA-MW7BR-SEP2020	N	Chromium, Hexavalent	0.0250	0.00340 J	0.0125 UJ		mg/l	V/L/H1

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7470, Dissolved, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB23-SEP2020 (EB)/ SN8209-10	Mercury	0.01700	< 0.013	< 0.2	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW7470, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP13-SEP2020	FD	Mercury	0.200	0.0130 J	0.100 U		ug/l	V/L
NHFLA-MW1BR-SEP2020	N	Mercury	0.200	0.0830 J	0.100 U		ug/l	V/L
NHFLA-MW1OB-SEP2020	N	Mercury	0.200	0.0570 J	0.100 U		ug/l	V/L
NHFLA-MW7BR-SEP2020	N	Mercury	0.200	0.0600 J	0.100 U		ug/l	V/L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7470, Dissolved, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
SN8209-13 (LB)/ SN8209-13	Mercury	0.04000	< 0.013	< 0.2	ug/l	U/None	L	
SN8209-14 (LB)/ SN8209-14	Mercury	0.01300	< 0.013	< 0.2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW7470, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP13-SEP2020	FD	Mercury	0.200	0.0130 J	0.100 U		ug/l	V/L
NHFLA-EB23-SEP2020	EB	Mercury	0.200	0.0170 J	0.100 U		ug/l	L
NHFLA-MW1BR-SEP2020	N	Mercury	0.200	0.0830 J	0.100 U		ug/l	V/L
NHFLA-MW1OB-SEP2020	N	Mercury	0.200	0.0570 J	0.100 U		ug/l	V/L
NHFLA-MW7BR-SEP2020	N	Mercury	0.200	0.0600 J	0.100 U		ug/l	V/L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7470, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB23-SEP2020 (EB)/ SN8209-9	Mercury	0.01800	< 0.013	< 0.2	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW7470

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP13-SEP2020	FD	Mercury	0.200	0.0130 J	0.100 U		ug/l	V/L
NHFLA-MW1BR-SEP2020	N	Mercury	0.200	0.0830 J	0.100 U		ug/l	V/L
NHFLA-MW1OB-SEP2020	N	Mercury	0.200	0.0570 J	0.100 U		ug/l	V/L
NHFLA-MW7BR-SEP2020	N	Mercury	0.200	0.0600 J	0.100 U		ug/l	V/L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7470, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNJ19HGW1 (LB)/ PBWNJ19HGW1	Mercury	0.05300	< 0.013	< 0.2	ug/l	U/None	L	
PBWNJ20HGW2 (LB)/ PBWNJ20HGW2	Mercury	0.01700	< 0.013	< 0.2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW7470

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP13-SEP2020	FD	Mercury	0.200	0.0340 J	0.100 U		ug/l	V/L
NHFLA-EB23-SEP2020	EB	Mercury	0.200	0.0180 J	0.100 U		ug/l	L
NHFLA-MW1BR-SEP2020	N	Mercury	0.200	0.0660 J	0.100 U		ug/l	V/L
NHFLA-MW1OB-SEP2020	N	Mercury	0.200	0.0410 J	0.100 U		ug/l	V/L
NHFLA-MW7BR-SEP2020	N	Mercury	0.200	0.0650 J	0.100 U		ug/l	V/L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB23-SEP2020 (EB)/ SN8209-9	Toluene	0.9500	< 0.27	< 1	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP13-SEP2020	FD	Toluene	1.00	1.00	1.00 U		ug/l	V/T
NHFLA-MW1BR-SEP2020	N	Toluene	1.00	0.460 J	0.500 U		ug/l	V/T
NHFLA-MW1OB-SEP2020	N	Toluene	1.00	0.410 J	0.500 U		ug/l	V/T
NHFLA-MW7BR-SEP2020	N	Toluene	1.00	0.980 J	1.00 U		ug/l	V/T

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Trip Blank

The purpose of trip blanks is to determine the existence and magnitude of cross-contamination problems resulting from the shipping of samples. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in trip blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-TB31-SEP2020 (TB)/ SN8209-11	Toluene	0.7100	< 0.27	< 1	ug/l	U/None	T	
NHFLA-TB32-SEP2020 (TB)/ SN8209-12	Toluene	0.7700	< 0.27	< 1	ug/l	U/None	T	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Trip Blank for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP13-SEP2020	FD	Toluene	1.00	1.00	1.00 U		ug/l	V/T
NHFLA-MW1BR-SEP2020	N	Toluene	1.00	0.460 J	0.500 U		ug/l	V/T
NHFLA-MW1OB-SEP2020	N	Toluene	1.00	0.410 J	0.500 U		ug/l	V/T
NHFLA-MW7BR-SEP2020	N	Toluene	1.00	0.980 J	1.00 U		ug/l	V/T

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG287620-2 (BS)/ WG287620-2	Benzaldehyde	322.0	10 - 189	10 - 189	percent	J/None	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Field Duplicate Report By SDG

C02NY0079-02, Nike BU 51/52, Launch Area

Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling

Field Duplicates for SDG: SN8209

Location	Analysis
NHFLA-MW7BR	A2340B

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Hardness (as CaCO3)	24000	24400	650	1.65	35	OK	NA

Location	Analysis
NHFLA-MW7BR	BNASIM

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	2-Methylnaphthalene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Acenaphthene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Acenaphthylene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Anthracene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Benzo(a)anthracene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Benzo(a)pyrene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Benzo(b)fluoranthene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Benzo(g,h,i)perylene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Benzo(k)fluoranthene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Chrysene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Dibenz(a,h)anthracene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Fluoranthene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Fluorene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Indeno(1,2,3-c,d)pyrene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Naphthalene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Phenanthrene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Pyrene	ND	ND	0.190	NA	35	NA	OK

Location	Analysis
NHFLA-MW7BR	SW6020

FD = Field Duplicate
RL = Reporting Limit
RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the fie

Field Duplicate Report By SDG

C02NY0079-02, Nike BU 51/52, Launch Area

Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling

Field Duplicates for SDG: SN8209

Location	Analysis
NHFLA-MW7BR	A2340B

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Aluminum	174	166	100	4.71	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-6 / SN8209-8	Aluminum (DSSVLD) - sample -006 qualified estimated before blank qualifications assigned.	237	ND	100	NA	35	NA	237
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Antimony	0.340	0.230	1.00	38.6	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-6 / SN8209-8	Antimony (DSSVLD)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Arsenic	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-6 / SN8209-8	Arsenic (DSSVLD)	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Barium	26.0	25.6	2.00	1.55	35	OK	NA
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-6 / SN8209-8	Barium (DSSVLD)	24.9	23.4	2.00	6.21	35	OK	NA
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Beryllium	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-6 / SN8209-8	Beryllium (DSSVLD)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Cadmium	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-6 / SN8209-8	Cadmium (DSSVLD)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Calcium	7600	7790	100	2.47	35	OK	NA
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-6 / SN8209-8	Calcium (DSSVLD)	7850	7630	100	2.84	35	OK	NA
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Chromium	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-6 / SN8209-8	Chromium (DSSVLD)	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Cobalt	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-6 / SN8209-8	Cobalt (DSSVLD)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Copper	ND	ND	3.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-6 / SN8209-8	Copper (DSSVLD)	ND	ND	3.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Iron	ND	ND	100	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-6 / SN8209-8	Iron (DSSVLD)	ND	ND	100	NA	35	NA	OK

FD = Field Duplicate
RL = Reporting Limit
RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the fie

Field Duplicate Report By SDG

C02NY0079-02, Nike BU 51/52, Launch Area

Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling

Field Duplicates for SDG: SN8209

Location	Analysis
NHFLA-MW7BR	A2340B

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Lead	0.160	0.170	1.00	6.06	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-6 / SN8209-8	Lead (DSSVLD)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Magnesium	1230	1210	100	1.64	35	OK	NA
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-6 / SN8209-8	Magnesium (DSSVLD)	1280	1240	100	3.17	35	OK	NA
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Manganese	10.9	11.0	2.00	0.913	35	OK	NA
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-6 / SN8209-8	Manganese (DSSVLD)	11.0	9.69	2.00	12.7	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Nickel	0.350	0.570	2.00	47.8	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-6 / SN8209-8	Nickel (DSSVLD)	0.360	0.310	2.00	14.9	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Potassium	1660	1630	1000	1.82	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-6 / SN8209-8	Potassium (DSSVLD)	1670	1640	1000	1.81	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Selenium	0.520	0.330	5.00	44.7	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-6 / SN8209-8	Selenium (DSSVLD)	0.390	0.480	5.00	20.7	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Silver	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-6 / SN8209-8	Silver (DSSVLD)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Sodium	166000	162000	1000	2.44	35	OK	NA
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-6 / SN8209-8	Sodium (DSSVLD)	166000	165000	1000	0.604	35	OK	NA
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Thallium	0.100	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-6 / SN8209-8	Thallium (DSSVLD)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Vanadium	2.00	2.10	5.00	4.88	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-6 / SN8209-8	Vanadium (DSSVLD)	1.60	1.70	5.00	6.06	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Zinc	ND	ND	10.0	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-6 / SN8209-8	Zinc (DSSVLD)	ND	ND	10.0	NA	35	NA	OK

Location	Analysis
NHFLA-MW7BR	SW7196

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Field Duplicate Report By SDG

C02NY0079-02, Nike BU 51/52, Launch Area

Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling

Field Duplicates for SDG: SN8209

Location	Analysis
NHFLA-MW7BR	A2340B

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Chromium, Hexavalent	ND	ND	0.0250	NA	35	NA	OK

Location	Analysis
NHFLA-MW7BR	SW7470

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Mercury	ND	ND	0.200	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-6 / SN8209-8	Mercury (DSSVLD)	ND	ND	0.200	NA	35	NA	OK

Location	Analysis
NHFLA-MW7BR	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	1,1,1-Trichloroethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	1,1,2,2-Tetrachloroethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	1,1,2-Trichloroethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	1,1-Dichloroethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	1,1-Dichloroethene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	1,2,3-Trichlorobenzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	1,2,4-Trichlorobenzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	1,2-Dibromo-3-chloropropane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	1,2-Dibromoethane (EDB)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	1,2-Dichlorobenzene	ND	ND	1.00	NA	35	NA	OK

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Field Duplicate Report By SDG

C02NY0079-02, Nike BU 51/52, Launch Area

Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling

Field Duplicates for SDG: SN8209

Location	Analysis
NHFLA-MW7BR	A2340B

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	1,2-Dichloroethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	1,2-Dichloropropane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	1,3-Dichlorobenzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	1,4-Dichlorobenzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	2-Butanone (MEK)	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	2-Hexanone	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	4-Methyl-2-pentanone (MIBK)	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Acetone	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Benzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Bromochloromethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Bromodichloromethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Bromoform	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Bromomethane	ND	ND	2.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Carbon disulfide	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Carbon tetrachloride	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Chlorobenzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Chloroethane	ND	ND	2.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Chloroform	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Chloromethane	ND	ND	2.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	cis-1,2-Dichloroethene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	cis-1,3-Dichloropropene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Cyclohexane	2.00	2.00	1.00	0.00	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Dibromochloromethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Dichlorodifluoromethane	ND	ND	2.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Ethylbenzene	0.350	0.370	1.00	5.56	35	NA	OK

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Field Duplicate Report By SDG

C02NY0079-02, Nike BU 51/52, Launch Area

Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling

Field Duplicates for SDG: SN8209

Location	Analysis
NHFLA-MW7BR	A2340B

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-	SN8209-5 / SN8209-7	Isopropylbenzene (Cumene)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-	SN8209-5 / SN8209-7	m,p-Xylene	1.00	1.10	2.00	9.52	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-	SN8209-5 / SN8209-7	Methyl acetate	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-	SN8209-5 / SN8209-7	Methyl tert-butyl ether (MTBE)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-	SN8209-5 / SN8209-7	Methylcyclohexane	2.40	2.30	1.00	4.26	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-	SN8209-5 / SN8209-7	Methylene chloride	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-	SN8209-5 / SN8209-7	o-Xylene	0.340	0.390	1.00	13.7	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-	SN8209-5 / SN8209-7	Styrene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-	SN8209-5 / SN8209-7	Tetrachloroethene (PCE)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-	SN8209-5 / SN8209-7	Toluene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-	SN8209-5 / SN8209-7	trans-1,2-Dichloroethene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-	SN8209-5 / SN8209-7	trans-1,3-Dichloropropene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-	SN8209-5 / SN8209-7	Trichloroethene (TCE)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-	SN8209-5 / SN8209-7	Trichlorofluoromethane	ND	ND	2.00	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-	SN8209-5 / SN8209-7	Vinyl chloride	ND	ND	2.00	NA	35	NA	OK

Location	Analysis
NHFLA-MW7BR	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-	SN8209-5 / SN8209-7	1,2,4,5-Tetrachlorobenzene	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-	SN8209-5 / SN8209-7	1,4-Dioxane (p-Dioxane)	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-	SN8209-5 / SN8209-7	2,2'-Oxybis(1-chloropropane)	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-	SN8209-5 / SN8209-7	2,3,4,6-Tetrachlorophenol	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-	SN8209-5 / SN8209-7	2,4,5-Trichlorophenol	ND	ND	23.0	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-	SN8209-5 / SN8209-7	2,4,6-Trichlorophenol	ND	ND	9.30	NA	35	NA	OK

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Field Duplicate Report By SDG

C02NY0079-02, Nike BU 51/52, Launch Area

Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling

Field Duplicates for SDG: SN8209

Location	Analysis
NHFLA-MW7BR	A2340B

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	2,4-Dichlorophenol	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	2,4-Dimethylphenol	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	2,4-Dinitrophenol	ND	ND	23.0	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	2,4-Dinitrotoluene	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	2,6-Dinitrotoluene	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	2-Chloronaphthalene	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	2-Chlorophenol	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	2-Methylphenol (o-Cresol)	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	2-Nitroaniline	ND	ND	23.0	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	2-Nitrophenol	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	3,3'-Dichlorobenzidine	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	3-Nitroaniline	ND	ND	23.0	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	4,6-Dinitro-2-methylphenol	ND	ND	23.0	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	4-Bromophenyl phenyl ether	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	4-Chloro-3-methylphenol	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	4-Chloroaniline	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	4-Chlorophenyl phenyl ether	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	4-Nitroaniline	ND	ND	23.0	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	4-Nitrophenol	ND	ND	23.0	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Acetophenone	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Atrazine	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Benzaldehyde	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Benzyl butyl phthalate	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Biphenyl (Diphenyl)	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Bis(2-chloroethoxy)methane	ND	ND	9.30	NA	35	NA	OK

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Field Duplicate Report By SDG

C02NY0079-02, Nike BU 51/52, Launch Area

Nike BU 51/52 - Hamburg NY - First Round Groundwater Sampling

Field Duplicates for SDG: SN8209

Location	Analysis
NHFLA-MW7BR	A2340B

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Bis(2-ethylhexyl)phthalate	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Caprolactam	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Carbazole	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Cresols, m- & p-	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Di-n-butyl phthalate	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	di-n-Octyl phthalate	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Dibenzofuran	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Diethyl phthalate	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Dimethyl phthalate	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Hexachlorobenzene	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Hexachlorobutadiene	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Hexachlorocyclopentadiene	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Hexachloroethane	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Isophorone	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	N-Nitrosodi-n-propylamine	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	N-Nitrosodiphenylamine	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Nitrobenzene	ND	ND	9.30	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Pentachlorophenol	ND	ND	23.0	NA	35	NA	OK
NHFLA-MW7BR-SEP2020 / NHFLA-DUP13-SEP2020	SN8209-5 / SN8209-7	Phenol	ND	ND	9.30	NA	35	NA	OK

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Table of All Qualified Results

Test Method: BNASIM	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP13-SEP2020	FD	2-Methylnaphthalene	0.200	0.120 J	0.200 U		ug/l	V
NHFLA-MW1BR-SEP2020	N	2-Methylnaphthalene	0.190	0.430	0.430 J	+	ug/l	V
NHFLA-MW1OB-SEP2020	N	2-Methylnaphthalene	0.190	0.250	0.250 J	+	ug/l	V
NHFLA-MW7BR-SEP2020	N	2-Methylnaphthalene	0.190	0.130 J	0.190 U		ug/l	V

Test Method: SW6020	Extraction Method: Dissolved							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP13-SEP2020	FD	Antimony	1.00	0.220 J	0.500 U		ug/l	V
NHFLA-DUP13-SEP2020	FD	Iron	100	34.0 J	60.0 U		ug/l	V/L
NHFLA-DUP13-SEP2020	FD	Aluminum	100	71.0 J	100 UJ		ug/l	V/L/D3
NHFLA-DUP13-SEP2020	FD	Chromium	5.00	0.320 J	4.00 U		ug/l	V/L
NHFLA-DUP13-SEP2020	FD	Cobalt	1.00	0.0840 J	0.300 U		ug/l	V/L
NHFLA-DUP13-SEP2020	FD	Copper	3.00	1.20 J	2.00 U		ug/l	V/L
NHFLA-EB23-SEP2020	EB	Barium	2.00	1.50 J	2.00 U		ug/l	L
NHFLA-EB23-SEP2020	EB	Cadmium	1.00	0.0470 J	0.200 U		ug/l	L
NHFLA-EB23-SEP2020	EB	Chromium	5.00	0.280 J	4.00 U		ug/l	L
NHFLA-EB23-SEP2020	EB	Cobalt	1.00	0.0990 J	0.300 U		ug/l	L
NHFLA-EB23-SEP2020	EB	Copper	3.00	1.20 J	2.00 U		ug/l	L
NHFLA-EB23-SEP2020	EB	Iron	100	14.0 J	60.0 U		ug/l	L
NHFLA-EB23-SEP2020	EB	Magnesium	100	16.0 J	80.0 U		ug/l	L
NHFLA-EB23-SEP2020	EB	Sodium	1000	24.0 J	400 U		ug/l	L
NHFLA-MW1BR-SEP2020	N	Antimony	1.00	0.160 J	0.500 U		ug/l	V
NHFLA-MW1BR-SEP2020	N	Beryllium	1.00	0.0480 J	0.200 U		ug/l	V
NHFLA-MW1BR-SEP2020	N	Cobalt	1.00	0.0970 J	0.300 U		ug/l	V
NHFLA-MW1BR-SEP2020	N	Zinc	10.0	41.5	41.5 J	+	ug/l	V
NHFLA-MW1BR-SEP2020	N	Lead	1.00	0.120 J	0.500 U		ug/l	V/L
NHFLA-MW1BR-SEP2020	N	Nickel	2.00	0.330 J	1.20 U		ug/l	L
NHFLA-MW1BR-SEP2020	N	Aluminum	100	18.0 J	40.0 U		ug/l	V/L
NHFLA-MW1BR-SEP2020	N	Chromium	5.00	0.520 J	4.00 U		ug/l	V/L
NHFLA-MW1BR-SEP2020	N	Copper	3.00	1.30 J	2.00 U		ug/l	V/L
NHFLA-MW1BR-SEP2020	N	Iron	100	328	328 J	+	ug/l	L
NHFLA-MW1OB-SEP2020	N	Antimony	1.00	0.150 J	0.500 U		ug/l	V
NHFLA-MW1OB-SEP2020	N	Beryllium	1.00	0.0770 J	0.200 U		ug/l	V
NHFLA-MW1OB-SEP2020	N	Cadmium	1.00	0.0870 J	0.200 U		ug/l	V
NHFLA-MW1OB-SEP2020	N	Cobalt	1.00	0.480 J	1.00 U		ug/l	V
NHFLA-MW1OB-SEP2020	N	Thallium	1.00	0.0630 J	0.400 U		ug/l	V
NHFLA-MW1OB-SEP2020	N	Zinc	10.0	11.0	11.0 J	+	ug/l	V
NHFLA-MW1OB-SEP2020	N	Lead	1.00	0.0970 J	0.500 U		ug/l	V/L
NHFLA-MW1OB-SEP2020	N	Nickel	2.00	0.830 J	1.20 U		ug/l	L
NHFLA-MW1OB-SEP2020	N	Aluminum	100	12.0 J	40.0 U		ug/l	V/L
NHFLA-MW1OB-SEP2020	N	Chromium	5.00	0.670 J	4.00 U		ug/l	V/L

Table of All Qualified Results

Test Method: SW6020 Extraction Method: Dissolved								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW7BR-SEP2020	N	Antimony	1.00	0.250 J	0.500 U		ug/l	V
NHFLA-MW7BR-SEP2020	N	Iron	100	36.0 J	60.0 U		ug/l	V/L
NHFLA-MW7BR-SEP2020	N	Chromium	5.00	0.310 J	4.00 U		ug/l	V/L
NHFLA-MW7BR-SEP2020	N	Copper	3.00	1.30 J	2.00 U		ug/l	V/L
NHFLA-MW7BR-SEP2020	N	Aluminum	100	237	237 J	+	ug/l	V/D3

Test Method: SW6020 Extraction Method: SW3010								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP13-SEP2020	FD	Cobalt	1.00	0.120 J	0.300 U		ug/l	L
NHFLA-DUP13-SEP2020	FD	Aluminum	100	166	166 J	+	ug/l	V
NHFLA-DUP13-SEP2020	FD	Chromium	5.00	0.410 J	4.00 U		ug/l	V
NHFLA-DUP13-SEP2020	FD	Copper	3.00	1.30 J	2.00 U		ug/l	V/L
NHFLA-DUP13-SEP2020	FD	Iron	100	85.0 J	100 U		ug/l	V/L
NHFLA-EB23-SEP2020	EB	Aluminum	100	90.4 J	100 U		ug/l	L
NHFLA-EB23-SEP2020	EB	Iron	100	26.0 J	60.0 U		ug/l	L
NHFLA-EB23-SEP2020	EB	Magnesium	100	12.0 J	80.0 U		ug/l	L
NHFLA-EB23-SEP2020	EB	Barium	2.00	0.310 J	1.00 U		ug/l	L
NHFLA-EB23-SEP2020	EB	Copper	3.00	0.660 J	2.00 U		ug/l	L
NHFLA-EB23-SEP2020	EB	Manganese	2.00	1.20 J	2.00 U		ug/l	L
NHFLA-MW1BR-SEP2020	N	Beryllium	1.00	0.0910 J	0.200 U		ug/l	L
NHFLA-MW1BR-SEP2020	N	Cobalt	1.00	0.100 J	0.300 U		ug/l	L
NHFLA-MW1BR-SEP2020	N	Vanadium	5.00	2.40 J	4.00 U		ug/l	L
NHFLA-MW1BR-SEP2020	N	Aluminum	100	70.5 J	100 U		ug/l	V/L
NHFLA-MW1BR-SEP2020	N	Chromium	5.00	0.570 J	4.00 U		ug/l	V
NHFLA-MW1BR-SEP2020	N	Copper	3.00	1.40 J	2.00 U		ug/l	V/L
NHFLA-MW1BR-SEP2020	N	Zinc	10.0	4.20 J	8.00 U		ug/l	V
NHFLA-MW1OB-SEP2020	N	Beryllium	1.00	0.120 J	0.200 U		ug/l	L
NHFLA-MW1OB-SEP2020	N	Cadmium	1.00	0.0630 J	0.200 U		ug/l	L
NHFLA-MW1OB-SEP2020	N	Cobalt	1.00	0.370 J	1.00 U		ug/l	L
NHFLA-MW1OB-SEP2020	N	Vanadium	5.00	1.90 J	4.00 U		ug/l	L
NHFLA-MW1OB-SEP2020	N	Aluminum	100	106 NA	106 J	+	ug/l	V/M
NHFLA-MW1OB-SEP2020	N	Chromium	5.00	0.780 J	4.00 U		ug/l	V
NHFLA-MW1OB-SEP2020	N	Copper	3.00	1.30 J	2.00 U		ug/l	V/L
NHFLA-MW1OB-SEP2020	N	Zinc	10.0	39.1 A	39.1 J	+	ug/l	V
NHFLA-MW7BR-SEP2020	N	Beryllium	1.00	0.0740 J	0.200 U		ug/l	L
NHFLA-MW7BR-SEP2020	N	Cadmium	1.00	0.0500 J	0.200 U		ug/l	L
NHFLA-MW7BR-SEP2020	N	Cobalt	1.00	0.160 J	0.300 U		ug/l	L
NHFLA-MW7BR-SEP2020	N	Aluminum	100	174	174 J	+	ug/l	V
NHFLA-MW7BR-SEP2020	N	Chromium	5.00	0.420 J	4.00 U		ug/l	V
NHFLA-MW7BR-SEP2020	N	Copper	3.00	1.50 J	2.00 U		ug/l	V/L
NHFLA-MW7BR-SEP2020	N	Iron	100	86.0 J	100 U		ug/l	V/L

Table of All Qualified Results

Test Method: SW7196 Extraction Method: NONE								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP13-SEP2020	FD	Chromium, Hexavalent	0.0250	0.00880 J	0.0125 UJ		mg/l	V/L/H1
NHFLA-EB23-SEP2020	EB	Chromium, Hexavalent	0.0250	0.00650 J	0.0125 UJ		mg/l	L/H1
NHFLA-MW1BR-SEP2020	N	Chromium, Hexavalent	0.0250	0.00590 J	0.0125 U		mg/l	V/L
NHFLA-MW1OB-SEP2020	N	Chromium, Hexavalent	0.0250	0.0190 J	0.0250 U		mg/l	V/L
NHFLA-MW7BR-SEP2020	N	Chromium, Hexavalent	0.0250	0.00340 J	0.0125 UJ		mg/l	V/L/H1

Test Method: SW7470 Extraction Method: Dissolved								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP13-SEP2020	FD	Mercury	0.200	0.0130 J	0.100 U		ug/l	V/L
NHFLA-EB23-SEP2020	EB	Mercury	0.200	0.0170 J	0.100 U		ug/l	L
NHFLA-MW1BR-SEP2020	N	Mercury	0.200	0.0830 J	0.100 U		ug/l	V/L
NHFLA-MW1OB-SEP2020	N	Mercury	0.200	0.0570 J	0.100 U		ug/l	V/L
NHFLA-MW7BR-SEP2020	N	Mercury	0.200	0.0600 J	0.100 U		ug/l	V/L

Test Method: SW7470 Extraction Method: METHOD								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP13-SEP2020	FD	Mercury	0.200	0.0340 J	0.100 U		ug/l	V/L
NHFLA-EB23-SEP2020	EB	Mercury	0.200	0.0180 J	0.100 U		ug/l	L
NHFLA-MW1BR-SEP2020	N	Mercury	0.200	0.0660 J	0.100 U		ug/l	V/L
NHFLA-MW1OB-SEP2020	N	Mercury	0.200	0.0410 J	0.100 U		ug/l	V/L
NHFLA-MW7BR-SEP2020	N	Mercury	0.200	0.0650 J	0.100 U		ug/l	V/L

Test Method: SW8260 Extraction Method: SW5030								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP13-SEP2020	FD	Toluene	1.00	1.00	1.00 U		ug/l	V/T
NHFLA-MW1BR-SEP2020	N	Toluene	1.00	0.460 J	0.500 U		ug/l	V/T
NHFLA-MW1OB-SEP2020	N	Toluene	1.00	0.410 J	0.500 U		ug/l	V/T
NHFLA-MW7BR-SEP2020	N	Toluene	1.00	0.980 J	1.00 U		ug/l	V/T

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP13-SEP2020	FD	Antimony	1.00	0.230 J	0.500 U	0.230 J	TR
NHFLA-DUP13-SEP2020	FD	Cobalt	1.00	0.120 J	0.300 U	0.300 U	L
NHFLA-DUP13-SEP2020	FD	Lead	1.00	0.170 J	0.500 U	0.170 J	TR
NHFLA-MW1BR-SEP2020	N	Antimony	1.00	0.180 J	0.500 U	0.180 J	TR
NHFLA-MW1BR-SEP2020	N	Beryllium	1.00	0.0910 J	0.200 U	0.200 U	L
NHFLA-MW1BR-SEP2020	N	Cobalt	1.00	0.100 J	0.300 U	0.300 U	L
NHFLA-MW1BR-SEP2020	N	Lead	1.00	0.570 J	1.00 U	0.570 J	TR
NHFLA-MW1OB-SEP2020	N	Antimony	1.00	0.190 J	0.500 U	0.190 J	TR
NHFLA-MW1OB-SEP2020	N	Beryllium	1.00	0.120 J	0.200 U	0.200 U	L
NHFLA-MW1OB-SEP2020	N	Cadmium	1.00	0.0630 J	0.200 U	0.200 U	L
NHFLA-MW1OB-SEP2020	N	Cobalt	1.00	0.370 J	1.00 U	1.00 U	L
NHFLA-MW1OB-SEP2020	N	Lead	1.00	0.230 J	0.500 U	0.230 J	TR
NHFLA-MW1OB-SEP2020	N	Thallium	1.00	0.140 J	0.400 U	0.140 J	TR
NHFLA-MW7BR-SEP2020	N	Antimony	1.00	0.340 J	0.500 U	0.340 J	TR
NHFLA-MW7BR-SEP2020	N	Beryllium	1.00	0.0740 J	0.200 U	0.200 U	L
NHFLA-MW7BR-SEP2020	N	Cadmium	1.00	0.0500 J	0.200 U	0.200 U	L
NHFLA-MW7BR-SEP2020	N	Cobalt	1.00	0.160 J	0.300 U	0.300 U	L
NHFLA-MW7BR-SEP2020	N	Lead	1.00	0.160 J	0.500 U	0.160 J	TR
NHFLA-MW7BR-SEP2020	N	Thallium	1.00	0.100 J	0.400 U	0.100 J	TR

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

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Rejected Results

--No Records Found--

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Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
A2340B/METHOD/NONE	5	5

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
A2340B/METHOD/NONE	NHFLA-DUP13-SEP2020	FD	5	Hardness (as CaCO3)	24400	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-EB23-SEP2020	EB	5	Hardness (as CaCO3)	530 U	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW1BR-SEP2020	N	5	Hardness (as CaCO3)	724000	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW1OB-SEP2020	N	5	Hardness (as CaCO3)	492000	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW7BR-SEP2020	N	5	Hardness (as CaCO3)	24000	85.0	530	650	5	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
C	LCS Recovery
D3	Field Duplicate RPD
H1	Test Hold Time
L	Lab Blank
M	MS Recovery
T	Trip Blank
TR	Trace Level Detect
V	Equipment Blank

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

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Review Questions

Method: A2340B

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?			•	
Were target analytes in the method blank less than MDL?			•	
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?			•	
Were LCS/LCSD recoveries within project acceptance limits?			•	
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

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Review Questions

Method: BNASIM

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?		•		Equipment blank had detection below LOQ for 2-methylnaphthalene. Following samples were qualified non-detect at LOQ with U/V flag/reason codes: -005, -007. Following sample results were qualified for this analyte with J/V/+ flags/reason codes as estimated at reported value: -001, -003.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		ICV and CCV outlier issues noted in case narrative were not addressed as part of this stage 2A validation review
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data recommended for rejection (exclusion) in the data validation process?		•		

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Review Questions

Method: SW6020

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		Prep blanks for QC batch NJ12IMW1 had detections below the LOQ for aluminum, barium, calcium, cadmium, cobalt, copper, iron, magnesium, sodium, beryllium, vanadium. QC batch NJ12IMW2 prep blank had detections below the LOQ for aluminum, barium, copper, iron, magnesium, manganese. Qualified results as non-detect at either the LOD or LOQ included U/L flags in addition to flags required based on field blanks noted below.
Were target analytes in the field blank less than MDL?		•		See method blank narration above for additional flagging. Dissolved metals equipment blank had detections below the LOQ for antimony, barium, beryllium, cadmium, chromium, cobalt, copper, iron, lead, magnesium, manganese, sodium, thallium and above the LOQ for aluminum, calcium, and zinc. Total metals equipment blank had detections below the LOQ for aluminum, barium, chromium, copper, iron, magnesium, manganese, sodium and above the LOQ for zinc. Results that were considered estimated at the concentration reported with J/V/+flags based on filter or equipment blanks - aluminum samples -006, -001, -005, -007, Zinc samples -002, -004, -001. Non-detect at the concentration reported with J/V/+ flags for iron in sample -010. Filter blanks samples had detections below LOQ for barium, calcium, chromium, copper, lead, magnesium, manganese, nickel, sodium, zinc for sample -013 and -014 had detections below the LOQ for aluminum, barium, cadmium, chromium, copper, cobalt, iron, magnesium, sodium and sample -013 above the LOQ for barium and iron. Filter blanks were only used to qualify dissolved metals results and two filter blanks were reported (note: some metals were reported above LOQ in one blank and below in the other). See QC outlier summary tables for method blanks for details. Associated results were qualified non-detect at the LOD or LOQ with U/V flags.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			

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Review Questions

Method: SW6020

Review Questions	Yes	No	NA	Comment
Were MS/MSD recoveries within project acceptance limits?		•		Sample -001 MSD only was outlier biased high for aluminum. Sample -001 aluminum results were qualified with J/M flag/reason code. Calcium, iron, sodium and magnesium recoveries were not used to qualify results due to 4X exclusion.
Was the MS/MSD RPD within project acceptance limits?	•			
Were the post spike recoveries within project acceptance limits?		•		Outliers for aluminum and zinc with 4X exclusions for barium, calcium, iron, magnesium and manganese.
Were the serial dilution RPD values within project acceptance limits?	•			
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?		•		Samples -006 and -008 RPD for aluminum was outside project criteria. Sample -006 was detected above the LOQ so was qualified J/D3 and sample -008 was qualified as non-detect at LOD based on prep and equipment blank detections so was qualified UJ/D3. D3 qualification was made based on -006 result above LOQ and -008 reporting limit value RPD being greater than project criteria.
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

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Review Questions

Method: SW7196

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?		•		Following samples were received by lab/analyzed 2 days from collection (project criteria 1 day) so were qualified estimated with J/H1 flag/reason codes: -005, -007, -009.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG287431 and WG287522 had detections below LOQ. Samples -003, -005, -007, -009 qualified with U/L flag/reason code as non-detect at LOD and sample -001 at the LOQ.
Were target analytes in the field blank less than MDL?		•		Equipment blank detection below LOQ. Samples -003, -005, -007 qualified with U/V/L flags/reason codes as non-detect at LOD and -001 ND at LOQ due to prep blank and field blank detections.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			MS only
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Automated Data Review Detail Report for SN8209
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Review Questions

Method: SW7470

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch NJ19HGW1 and NJ20HGW2 prep blanks had detections below the LOQ. Samples -009 and -010 were qualified as non-detect at the LOD with U/L flags/reason codes.
Were target analytes in the field blank less than MDL?		•		Equipment blanks (total and dissolved) had detection below LOQ. Following sample dissolved or total mercury results qualified non-detect at the LOD with U/V/L flags/reason codes: -001, -002, -003, -004, -005, -006, -007, -008.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Automated Data Review Detail Report for SN8209
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Review Questions

Method: SW8260

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?		•		Trip blanks and equipment blank had detections below the LOQ for toluene. The following sample toluene results were qualified non-detect at the LOD with U/V/T flags/reason codes: -001, -003, and at the LOQ for -005, -007.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Automated Data Review Detail Report for SN8209
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Review Questions

Method: SW8270

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch WC287620 had high bias for benzaldehyde. Qualification not required based on this high bias QC outlier since all associated results were non-detect.
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		ICAL, CCV and ICV outlier issues noted in case narrative were not addressed as part of this stage 2A validation review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - December Groundwater Sampling
SDG:	TN0289
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Katahdin Analytical Services, Scarborough, ME
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	March 02, 2021

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	A2340B	BNASIM	SW6020	SW6020 - Dissolved	SW7196	SW7470	SW7470 - Dissolved	SW8260	SW8270
NHFLA-EB23-DEC2020	TN0289-15	Water	Equipment Blank/EB				X			X		
NHFLA-EB23-DEC2020	TN0289-7	Water	Equipment Blank/EB	X	X	X		X	X		X	X
NHFLA-MW10-DEC2020	TN0289-11	Water	Field Sample/N				X			X		
NHFLA-MW10-DEC2020	TN0289-3	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW11-DEC2020	TN0289-14	Water	Field Sample/N				X			X		
NHFLA-MW11-DEC2020	TN0289-6	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW12-DEC2020	TN0289-10	Water	Field Sample/N				X			X		
NHFLA-MW12-DEC2020	TN0289-2	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW16-DEC2020	TN0289-1	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW16-DEC2020	TN0289-9	Water	Field Sample/N				X			X		
NHFLA-MW2-DEC2020	TN0289-12	Water	Field Sample/N				X			X		
NHFLA-MW2-DEC2020	TN0289-4	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW3-DEC2020	TN0289-13	Water	Field Sample/N				X			X		
NHFLA-MW3-DEC2020	TN0289-5	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-TB32-DEC2020	TN0289-8	Water	Trip Blank/TB								X	

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Katahdin Analytical Services, Scarborough, ME and were reported under sample delivery group (SDG) TN0289. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Extracted Internal Standard
- Lab Blank
- LCS Recovery
- LCS RPD
- MS Recovery
- MS RPD
- Prep Hold Time
- Surrogate
- Test Hold Time
- Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 141 results (11.56%) out of the 1220 results (sample and field QC samples) reported are qualified based on review and 73 results (5.98%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Analytical Method	Data Reviewer Comment
A2340B	No additional comments; see Checklist for detail.
BNASIM	No additional comments; see Checklist for detail.
SW6020	No additional comments; see Checklist for detail.
SW7196	No additional comments; see Checklist for detail.
SW7470	No additional comments; see Checklist for detail.
SW8260	No additional comments; see Checklist for detail.
SW8270	No additional comments; see Checklist for detail.

Jim Tomalia

March 03, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method BNASIM, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG292266-1 (LB)/ WG292266-1	Chrysene	0.04100	< 0.036	< 0.2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW11-DEC2020	N	Chrysene	0.190	0.0830 J	0.0940 U		ug/l	L
NHFLA-MW3-DEC2020	N	Chrysene	0.190	0.0380 J	0.0940 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Dissolved, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB23-DEC2020 (EB)/ TN0289-15	Chromium	0.2600	< 0.22	< 5	ug/l	U/None	V	
NHFLA-EB23-DEC2020 (EB)/ TN0289-15	Copper	0.5000	< 0.19	< 3	ug/l	U/None	V	
NHFLA-EB23-DEC2020 (EB)/ TN0289-15	Manganese	0.5400	< 0.35	< 2	ug/l	U/None	V	
NHFLA-EB23-DEC2020 (EB)/ TN0289-15	Nickel	1.850	< 0.15	< 2	ug/l	U/None	V	
NHFLA-EB23-DEC2020 (EB)/ TN0289-15	Magnesium	14.00	< 8	< 100	ug/l	U/None	V	
NHFLA-EB23-DEC2020 (EB)/ TN0289-15	Sodium	231.0	< 19	< 1000	ug/l	U/None	V	
NHFLA-EB23-DEC2020 (EB)/ TN0289-15	Zinc	4.600	< 3.9	< 10	ug/l	U/None	V	
NHFLA-EB23-DEC2020 (EB)/ TN0289-15	Potassium	48.00	< 31	< 1000	ug/l	U/None	V	
NHFLA-EB23-DEC2020 (EB)/ TN0289-15	Calcium	60.00	< 21	< 100	ug/l	U/None	V	
NHFLA-EB23-DEC2020 (EB)/ TN0289-15	Aluminum	8.900	< 4.4	< 100	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW6020, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW10-DEC2020	N	Aluminum	100	14.0 J	40.0 U		ug/l	V
NHFLA-MW10-DEC2020	N	Chromium	5.00	0.430 J	4.00 U		ug/l	V
NHFLA-MW10-DEC2020	N	Copper	3.00	0.880 J	2.00 U		ug/l	V
NHFLA-MW10-DEC2020	N	Nickel	2.00	3.99	3.99 J	+	ug/l	V
NHFLA-MW10-DEC2020	N	Zinc	10.0	4.20 J	8.00 U		ug/l	V
NHFLA-MW11-DEC2020	N	Chromium	5.00	4.74 J	5.00 U		ug/l	V
NHFLA-MW12-DEC2020	N	Aluminum	100	21.0 J	40.0 U		ug/l	V
NHFLA-MW12-DEC2020	N	Chromium	5.00	0.400 J	4.00 U		ug/l	V
NHFLA-MW12-DEC2020	N	Copper	3.00	1.70 J	2.00 U		ug/l	V
NHFLA-MW12-DEC2020	N	Nickel	2.00	6.16	6.16 J	+	ug/l	V
NHFLA-MW12-DEC2020	N	Zinc	10.0	4.30 J	8.00 U		ug/l	V
NHFLA-MW16-DEC2020	N	Aluminum	100	50.4 J	100 U		ug/l	V
NHFLA-MW16-DEC2020	N	Chromium	5.00	1.90 J	4.00 U		ug/l	V
NHFLA-MW16-DEC2020	N	Copper	3.00	0.760 J	2.00 U		ug/l	V
NHFLA-MW16-DEC2020	N	Zinc	10.0	4.50 J	8.00 U		ug/l	V
NHFLA-MW2-DEC2020	N	Aluminum	100	90.1 J	100 U		ug/l	V/L
NHFLA-MW2-DEC2020	N	Chromium	5.00	0.460 J	4.00 U		ug/l	V
NHFLA-MW2-DEC2020	N	Copper	3.00	1.50 J	2.00 U		ug/l	V

Qualified Results associated with the Equipment Blank for SW6020, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW3-DEC2020	N	Chromium	5.00	0.770 J	4.00 U		ug/l	V
NHFLA-MW3-DEC2020	N	Copper	3.00	1.80 J	2.00 U		ug/l	V

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB23-DEC2020 (EB)/ TN0289-7	Chromium	0.2700	< 0.22	< 5	ug/l	U/None	V	
NHFLA-EB23-DEC2020 (EB)/ TN0289-7	Manganese	0.4200	< 0.35	< 2	ug/l	U/None	V	
NHFLA-EB23-DEC2020 (EB)/ TN0289-7	Copper	0.5300	< 0.19	< 3	ug/l	U/None	V	
NHFLA-EB23-DEC2020 (EB)/ TN0289-7	Magnesium	13.00	< 8	< 100	ug/l	U/None	V	
NHFLA-EB23-DEC2020 (EB)/ TN0289-7	Sodium	244.0	< 19	< 1000	ug/l	U/None	V	
NHFLA-EB23-DEC2020 (EB)/ TN0289-7	Calcium	43.00	< 21	< 100	ug/l	U/None	V	
NHFLA-EB23-DEC2020 (EB)/ TN0289-7	Potassium	45.00	< 31	< 1000	ug/l	U/None	V	
NHFLA-EB23-DEC2020 (EB)/ TN0289-7	Aluminum	7.300	< 4.4	< 100	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW10-DEC2020	N	Aluminum	100	14.0 J	40.0 U		ug/l	V
NHFLA-MW10-DEC2020	N	Chromium	5.00	0.430 J	4.00 U		ug/l	V
NHFLA-MW10-DEC2020	N	Copper	3.00	0.880 J	2.00 U		ug/l	V
NHFLA-MW11-DEC2020	N	Chromium	5.00	4.74 J	5.00 U		ug/l	V
NHFLA-MW12-DEC2020	N	Aluminum	100	21.0 J	40.0 U		ug/l	V
NHFLA-MW12-DEC2020	N	Chromium	5.00	0.400 J	4.00 U		ug/l	V
NHFLA-MW12-DEC2020	N	Copper	3.00	1.70 J	2.00 U		ug/l	V
NHFLA-MW16-DEC2020	N	Aluminum	100	50.4 J	100 U		ug/l	V
NHFLA-MW16-DEC2020	N	Chromium	5.00	1.90 J	4.00 U		ug/l	V
NHFLA-MW16-DEC2020	N	Copper	3.00	0.760 J	2.00 U		ug/l	V
NHFLA-MW2-DEC2020	N	Aluminum	100	90.1 J	100 U		ug/l	V/L
NHFLA-MW2-DEC2020	N	Chromium	5.00	0.460 J	4.00 U		ug/l	V
NHFLA-MW2-DEC2020	N	Copper	3.00	1.50 J	2.00 U		ug/l	V
NHFLA-MW3-DEC2020	N	Chromium	5.00	0.770 J	4.00 U		ug/l	V
NHFLA-MW3-DEC2020	N	Copper	3.00	1.80 J	2.00 U		ug/l	V

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNL18IMW2 (LB)/ PBWNL18IMW2	Copper	0.4300	< 0.18	< 3	ug/l	U/None	L	
PBWNL18IMW2 (LB)/ PBWNL18IMW2	Barium	0.4300	< 0.27	< 2	ug/l	U/None	L	
PBWNL18IMW2 (LB)/ PBWNL18IMW2	Manganese	0.5000	< 0.35	< 2	ug/l	U/None	L	
PBWNL18IMW2 (LB)/ PBWNL18IMW2	Aluminum	13.00	< 4.4	< 100	ug/l	U/None	L	
PBWNL18IMW2 (LB)/ PBWNL18IMW2	Magnesium	8.600	< 7.8	< 100	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB23-DEC2020	EB	Aluminum	100	7.30 J	40.0 U		ug/l	L
NHFLA-EB23-DEC2020	EB	Copper	3.00	0.530 J	2.00 U		ug/l	L
NHFLA-EB23-DEC2020	EB	Magnesium	100	13.0 J	80.0 U		ug/l	L
NHFLA-EB23-DEC2020	EB	Manganese	2.00	0.420 J	1.00 U		ug/l	L
NHFLA-MW10-DEC2020	N	Aluminum	100	42.0 J	100 U		ug/l	V/L
NHFLA-MW10-DEC2020	N	Copper	3.00	1.30 J	2.00 U		ug/l	V/L
NHFLA-MW12-DEC2020	N	Copper	3.00	1.80 J	2.00 U		ug/l	V/L
NHFLA-MW16-DEC2020	N	Aluminum	100	83.8 J	100 U		ug/l	V/L
NHFLA-MW16-DEC2020	N	Copper	3.00	0.900 J	2.00 U		ug/l	V/L
NHFLA-MW2-DEC2020	N	Aluminum	100	90.1 J	100 U		ug/l	V/L
NHFLA-MW2-DEC2020	N	Copper	3.00	2.11 J	3.00 U		ug/l	V/L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB23-DEC2020 (EB)/ TN0289-7	Chromium, Hexavalent	0.004100	< 0.00076	< 0.025	mg/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW12-DEC2020	N	Chromium, Hexavalent	0.0250	0.00120 J	0.0125 U		mg/l	V/L
NHFLA-MW2-DEC2020	N	Chromium, Hexavalent	0.0250	0.00510 J	0.0125 U		mg/l	V/L
NHFLA-MW3-DEC2020	N	Chromium, Hexavalent	0.0250	0.00190 J	0.0125 U		mg/l	V/L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG292091-1 (LB)/ WG292091-1	Chromium, Hexavalent	0.003400	< 0.00076	< 0.025	mg/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB23-DEC2020	EB	Chromium, Hexavalent	0.0250	0.00410 J	0.0125 U		mg/l	L
NHFLA-MW12-DEC2020	N	Chromium, Hexavalent	0.0250	0.00120 J	0.0125 U		mg/l	V/L
NHFLA-MW2-DEC2020	N	Chromium, Hexavalent	0.0250	0.00510 J	0.0125 U		mg/l	V/L
NHFLA-MW3-DEC2020	N	Chromium, Hexavalent	0.0250	0.00190 J	0.0125 U		mg/l	V/L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7470, Dissolved, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB23-DEC2020 (EB)/ TN0289-15	Mercury	0.04700	< 0.013	< 0.2	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW7470, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW10-DEC2020	N	Mercury	0.200	0.0550 J	0.100 U		ug/l	V
NHFLA-MW11-DEC2020	N	Mercury	0.200	0.0580 J	0.100 U		ug/l	V
NHFLA-MW12-DEC2020	N	Mercury	0.200	0.0360 J	0.100 U		ug/l	V
NHFLA-MW16-DEC2020	N	Mercury	0.200	0.0250 J	0.100 U		ug/l	V
NHFLA-MW2-DEC2020	N	Mercury	0.200	0.0480 J	0.100 U		ug/l	V
NHFLA-MW3-DEC2020	N	Mercury	0.200	0.0300 J	0.100 U		ug/l	V

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7470, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB23-DEC2020 (EB)/ TN0289-7	Mercury	0.03300	< 0.013	< 0.2	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW7470

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW10-DEC2020	N	Mercury	0.200	0.0550 J	0.100 U		ug/l	V
NHFLA-MW11-DEC2020	N	Mercury	0.200	0.0580 J	0.100 U		ug/l	V
NHFLA-MW12-DEC2020	N	Mercury	0.200	0.0360 J	0.100 U		ug/l	V
NHFLA-MW16-DEC2020	N	Mercury	0.200	0.0250 J	0.100 U		ug/l	V
NHFLA-MW2-DEC2020	N	Mercury	0.200	0.0480 J	0.100 U		ug/l	V
NHFLA-MW3-DEC2020	N	Mercury	0.200	0.0300 J	0.100 U		ug/l	V

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7470, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNL18HGW4 (LB)/ PBWNL18HGW4	Mercury	0.04900	< 0.013	< 0.2	ug/l	U/None	L	
PBWNL29HGW1 (LB)/ PBWNL29HGW1	Mercury	0.02600	< 0.013	< 0.2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW7470

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB23-DEC2020	EB	Mercury	0.200	0.0330 J	0.100 U		ug/l	L
NHFLA-MW10-DEC2020	N	Mercury	0.200	0.0430 J	0.100 U		ug/l	V/L
NHFLA-MW11-DEC2020	N	Mercury	0.200	0.0330 J	0.100 U		ug/l	V/L
NHFLA-MW12-DEC2020	N	Mercury	0.200	0.0340 J	0.100 U		ug/l	V/L
NHFLA-MW16-DEC2020	N	Mercury	0.200	0.0290 J	0.100 U		ug/l	V/L
NHFLA-MW2-DEC2020	N	Mercury	0.200	0.0290 J	0.100 U		ug/l	V/L
NHFLA-MW3-DEC2020	N	Mercury	0.200	0.0400 J	0.100 U		ug/l	V/L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB23-DEC2020 (EB)/ TN0289-7	Toluene	0.6000	< 0.27	< 1	ug/l	U/None	V	
NHFLA-EB23-DEC2020 (EB)/ TN0289-7	Acetone	8.800	< 2.2	< 5	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW16-DEC2020	N	Acetone	5.00	11.0	11.0 J	+	ug/l	V

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW10-DEC2020 (N)/ TN0289-3	1,2-Dichloroethane-d4	119.0	81 - 118	10 - 118	percent	J/None	I	
NHFLA-MW11-DEC2020 (N)/ TN0289-6	1,2-Dichloroethane-d4	119.0	81 - 118	10 - 118	percent	J/None	I	
NHFLA-MW2-DEC2020 (N)/ TN0289-4	1,2-Dichloroethane-d4	120.0	81 - 118	10 - 118	percent	J/None	I	
NHFLA-MW3-DEC2020 (N)/ TN0289-5	1,2-Dichloroethane-d4	120.0	81 - 118	10 - 118	percent	J/None	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW2-DEC2020 (N)/ TN0289-4		14.00	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Trip Blank

The purpose of trip blanks is to determine the existence and magnitude of cross-contamination problems resulting from the shipping of samples. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in trip blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-TB32-DEC2020 (TB)/ TN0289-8	Carbon disulfide	0.2500	< 0.25	< 1	ug/l	U/None	T	
NHFLA-TB32-DEC2020 (TB)/ TN0289-8	Methylene chloride	1.500	< 1.1	< 5	ug/l	U/None	T	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG292265-2 (BS)/ WG292265-2	4-Nitrophenol	0.000	10 - 114	10 - 114	percent	J/X	C	
WG292265-2 (BS)/ WG292265-2	2,4-Dinitrophenol	0.000	12 - 143	10 - 143	percent	J/X	C	
WG292265-2 (BS)/ WG292265-2	Pentachlorophenol	0.000	35 - 138	10 - 138	percent	J/X	C	
WG292265-2 (BS)/ WG292265-2	4,6-Dinitro-2-methylphenol	0.000	44 - 137	10 - 137	percent	J/X	C	
WG292265-2 (BS)/ WG292265-2	2,3,4,6-Tetrachlorophenol	0.000	50 - 128	10 - 128	percent	J/X	C	
WG292265-2 (BS)/ WG292265-2	2-Nitrophenol	15.70	47 - 123	10 - 123	percent	J/UJ	C	
WG292265-2 (BS)/ WG292265-2	2,4-Dichlorophenol	17.50	47 - 121	10 - 121	percent	J/UJ	C	
WG292265-2 (BS)/ WG292265-2	2-Chlorophenol	20.00	38 - 117	10 - 117	percent	J/UJ	C	
WG292265-2 (BS)/ WG292265-2	2,4,6-Trichlorophenol	4.750	50 - 125	10 - 125	percent	J/X	C	
WG292265-2 (BS)/ WG292265-2	Benzaldehyde	6760	10 - 189	10 - 189	percent	J/None	C	
WG292265-2 (BS)/ WG292265-2	2,4,5-Trichlorophenol	8.480	53 - 123	10 - 123	percent	J/X	C	
WG292478-2 (BS)/ WG292478-2	Benzaldehyde	5020	10 - 189	10 - 189	percent	J/None	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB23-DEC2020	EB	2,3,4,6-Tetrachlorophenol	9.30	7.00 UL	7.00 X		ug/l	C/I
NHFLA-EB23-DEC2020	EB	2,4,5-Trichlorophenol	23.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB23-DEC2020	EB	2,4,6-Trichlorophenol	9.30	7.00 UL	7.00 X		ug/l	C/I
NHFLA-EB23-DEC2020	EB	2,4-Dichlorophenol	9.30	7.00 UL	7.00 X		ug/l	C/I
NHFLA-EB23-DEC2020	EB	2,4-Dinitrophenol	23.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB23-DEC2020	EB	2-Chlorophenol	9.30	7.00 UL	7.00 X		ug/l	C/I
NHFLA-EB23-DEC2020	EB	2-Nitrophenol	9.30	7.00 UL	7.00 X		ug/l	C/I
NHFLA-EB23-DEC2020	EB	4,6-Dinitro-2-methylphenol	23.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB23-DEC2020	EB	4-Nitrophenol	23.0	18.0 U	18.0 X		ug/l	C/I
NHFLA-EB23-DEC2020	EB	Pentachlorophenol	23.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW10-DEC2020	N	2,3,4,6-Tetrachlorophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW10-DEC2020	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW10-DEC2020	N	2,4,6-Trichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW10-DEC2020	N	2,4-Dichlorophenol	9.40	7.10 UL	7.10 UJ		ug/l	C
NHFLA-MW10-DEC2020	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW10-DEC2020	N	2-Chlorophenol	9.40	7.10 UL	7.10 UJ		ug/l	C
NHFLA-MW10-DEC2020	N	2-Nitrophenol	9.40	7.10 UL	7.10 UJ		ug/l	C
NHFLA-MW10-DEC2020	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW10-DEC2020	N	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW10-DEC2020	N	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW11-DEC2020	N	2,3,4,6-Tetrachlorophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW11-DEC2020	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW11-DEC2020	N	2,4,6-Trichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW11-DEC2020	N	2,4-Dichlorophenol	9.40	7.10 UL	7.10 UJ		ug/l	C
NHFLA-MW11-DEC2020	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW11-DEC2020	N	2-Chlorophenol	9.40	7.10 UL	7.10 UJ		ug/l	C
NHFLA-MW11-DEC2020	N	2-Nitrophenol	9.40	7.10 UL	7.10 UJ		ug/l	C
NHFLA-MW11-DEC2020	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW11-DEC2020	N	4-Nitrophenol	24.0	18.0 U	18.0 X		ug/l	C
NHFLA-MW11-DEC2020	N	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW12-DEC2020	N	2,3,4,6-Tetrachlorophenol	10.0	7.70 UL	7.70 X		ug/l	C/I
NHFLA-MW12-DEC2020	N	2,4,5-Trichlorophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW12-DEC2020	N	2,4,6-Trichlorophenol	10.0	7.70 UL	7.70 X		ug/l	C/I
NHFLA-MW12-DEC2020	N	2,4-Dichlorophenol	10.0	7.70 UL	7.70 X		ug/l	C/I
NHFLA-MW12-DEC2020	N	2,4-Dinitrophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW12-DEC2020	N	2-Chlorophenol	10.0	7.70 UL	7.70 X		ug/l	C/I
NHFLA-MW12-DEC2020	N	2-Nitrophenol	10.0	7.70 UL	7.70 X		ug/l	C/I
NHFLA-MW12-DEC2020	N	4,6-Dinitro-2-methylphenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW12-DEC2020	N	4-Nitrophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW12-DEC2020	N	Pentachlorophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW16-DEC2020	N	2,3,4,6-Tetrachlorophenol	10.0	7.70 UL	7.70 X		ug/l	C/I
NHFLA-MW16-DEC2020	N	2,4,5-Trichlorophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW16-DEC2020	N	2,4,6-Trichlorophenol	10.0	7.70 UL	7.70 X		ug/l	C/I
NHFLA-MW16-DEC2020	N	2,4-Dichlorophenol	10.0	7.70 UL	7.70 X		ug/l	C/I
NHFLA-MW16-DEC2020	N	2,4-Dinitrophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW16-DEC2020	N	2-Chlorophenol	10.0	7.70 UL	7.70 X		ug/l	C/I
NHFLA-MW16-DEC2020	N	2-Nitrophenol	10.0	7.70 UL	7.70 X		ug/l	C/I
NHFLA-MW16-DEC2020	N	4,6-Dinitro-2-methylphenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW16-DEC2020	N	4-Nitrophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW16-DEC2020	N	Pentachlorophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW2-DEC2020	N	2,3,4,6-Tetrachlorophenol	10.0	7.50 UL	7.50 X		ug/l	C
NHFLA-MW2-DEC2020	N	2,4,5-Trichlorophenol	25.0	19.0 UL	19.0 X		ug/l	C
NHFLA-MW2-DEC2020	N	2,4,6-Trichlorophenol	10.0	7.50 UL	7.50 X		ug/l	C
NHFLA-MW2-DEC2020	N	2,4-Dichlorophenol	10.0	7.50 UL	7.50 UJ		ug/l	C
NHFLA-MW2-DEC2020	N	2,4-Dinitrophenol	25.0	19.0 UL	19.0 X		ug/l	C
NHFLA-MW2-DEC2020	N	2-Chlorophenol	10.0	7.50 UL	7.50 UJ		ug/l	C
NHFLA-MW2-DEC2020	N	2-Nitrophenol	10.0	7.50 UL	7.50 UJ		ug/l	C

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW2-DEC2020	N	4,6-Dinitro-2-methylphenol	25.0	19.0 UL	19.0 X		ug/l	C
NHFLA-MW2-DEC2020	N	4-Nitrophenol	25.0	19.0 UL	19.0 X		ug/l	C
NHFLA-MW2-DEC2020	N	Pentachlorophenol	25.0	19.0 UL	19.0 X		ug/l	C
NHFLA-MW3-DEC2020	N	2,3,4,6-Tetrachlorophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW3-DEC2020	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW3-DEC2020	N	2,4,6-Trichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW3-DEC2020	N	2,4-Dichlorophenol	9.40	7.10 UL	7.10 UJ		ug/l	C
NHFLA-MW3-DEC2020	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW3-DEC2020	N	2-Chlorophenol	9.40	7.10 UL	7.10 UJ		ug/l	C
NHFLA-MW3-DEC2020	N	2-Nitrophenol	9.40	7.10 UL	7.10 UJ		ug/l	C
NHFLA-MW3-DEC2020	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW3-DEC2020	N	4-Nitrophenol	24.0	18.0 U	18.0 X		ug/l	C
NHFLA-MW3-DEC2020	N	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB23-DEC2020 (EB)/ TN0289-7	2,4,6-Tribromophenol	0.000	43 - 140	10 - 140	percent	J/X	I	
NHFLA-EB23-DEC2020 (EB)/ TN0289-7	2-Fluorophenol	1.790	19 - 119	10 - 119	percent	J/X	I	
NHFLA-EB23-DEC2020 (EB)/ TN0289-7	Phenol-d6	3.140	10 - 90	10 - 90	percent	J/X	I	
NHFLA-MW12-DEC2020 (N)/ TN0289-2	2,4,6-Tribromophenol	3.160	43 - 140	10 - 140	percent	J/X	I	
NHFLA-MW12-DEC2020 (N)/ TN0289-2	2-Fluorophenol	3.800	19 - 119	10 - 119	percent	J/X	I	
NHFLA-MW12-DEC2020 (N)/ TN0289-2	Phenol-d6	8.140	10 - 90	10 - 90	percent	J/X	I	
NHFLA-MW16-DEC2020 (N)/ TN0289-1	Phenol-d6	0.000	10 - 90	10 - 90	percent	J/X	I	
NHFLA-MW16-DEC2020 (N)/ TN0289-1	2-Fluorophenol	0.000	19 - 119	10 - 119	percent	J/X	I	
NHFLA-MW16-DEC2020 (N)/ TN0289-1	2,4,6-Tribromophenol	0.000	43 - 140	10 - 140	percent	J/X	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB23-DEC2020	EB	2,3,4,6-Tetrachlorophenol	9.30	7.00 UL	7.00 X		ug/l	C/I
NHFLA-EB23-DEC2020	EB	2,4,5-Trichlorophenol	23.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB23-DEC2020	EB	2,4,6-Trichlorophenol	9.30	7.00 UL	7.00 X		ug/l	C/I
NHFLA-EB23-DEC2020	EB	2,4-Dichlorophenol	9.30	7.00 UL	7.00 X		ug/l	C/I
NHFLA-EB23-DEC2020	EB	2,4-Dimethylphenol	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-EB23-DEC2020	EB	2,4-Dinitrophenol	23.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB23-DEC2020	EB	2-Chlorophenol	9.30	7.00 UL	7.00 X		ug/l	C/I
NHFLA-EB23-DEC2020	EB	2-Methylphenol (o-Cresol)	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-EB23-DEC2020	EB	2-Nitrophenol	9.30	7.00 UL	7.00 X		ug/l	C/I
NHFLA-EB23-DEC2020	EB	4,6-Dinitro-2-methylphenol	23.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB23-DEC2020	EB	4-Chloro-3-methylphenol	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-EB23-DEC2020	EB	4-Nitrophenol	23.0	18.0 U	18.0 X		ug/l	C/I
NHFLA-EB23-DEC2020	EB	Cresols, m- & p-	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-EB23-DEC2020	EB	Pentachlorophenol	23.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB23-DEC2020	EB	Phenol	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-MW12-DEC2020	N	2,3,4,6-Tetrachlorophenol	10.0	7.70 UL	7.70 X		ug/l	C/I
NHFLA-MW12-DEC2020	N	2,4,5-Trichlorophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW12-DEC2020	N	2,4,6-Trichlorophenol	10.0	7.70 UL	7.70 X		ug/l	C/I
NHFLA-MW12-DEC2020	N	2,4-Dichlorophenol	10.0	7.70 UL	7.70 X		ug/l	C/I
NHFLA-MW12-DEC2020	N	2,4-Dimethylphenol	10.0	7.70 U	7.70 X		ug/l	I

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW12-DEC2020	N	2,4-Dinitrophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW12-DEC2020	N	2-Chlorophenol	10.0	7.70 UL	7.70 X		ug/l	C/I
NHFLA-MW12-DEC2020	N	2-Methylphenol (o-Cresol)	10.0	7.70 U	7.70 X		ug/l	I
NHFLA-MW12-DEC2020	N	2-Nitrophenol	10.0	7.70 UL	7.70 X		ug/l	C/I
NHFLA-MW12-DEC2020	N	4,6-Dinitro-2-methylphenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW12-DEC2020	N	4-Chloro-3-methylphenol	10.0	7.70 U	7.70 X		ug/l	I
NHFLA-MW12-DEC2020	N	4-Nitrophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW12-DEC2020	N	Cresols, m- & p-	10.0	7.70 U	7.70 X		ug/l	I
NHFLA-MW12-DEC2020	N	Pentachlorophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW12-DEC2020	N	Phenol	10.0	7.70 U	7.70 X		ug/l	I
NHFLA-MW16-DEC2020	N	2,3,4,6-Tetrachlorophenol	10.0	7.70 UL	7.70 X		ug/l	C/I
NHFLA-MW16-DEC2020	N	2,4,5-Trichlorophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW16-DEC2020	N	2,4,6-Trichlorophenol	10.0	7.70 UL	7.70 X		ug/l	C/I
NHFLA-MW16-DEC2020	N	2,4-Dichlorophenol	10.0	7.70 UL	7.70 X		ug/l	C/I
NHFLA-MW16-DEC2020	N	2,4-Dimethylphenol	10.0	7.70 U	7.70 X		ug/l	I
NHFLA-MW16-DEC2020	N	2,4-Dinitrophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW16-DEC2020	N	2-Chlorophenol	10.0	7.70 UL	7.70 X		ug/l	C/I
NHFLA-MW16-DEC2020	N	2-Methylphenol (o-Cresol)	10.0	7.70 U	7.70 X		ug/l	I
NHFLA-MW16-DEC2020	N	2-Nitrophenol	10.0	7.70 UL	7.70 X		ug/l	C/I
NHFLA-MW16-DEC2020	N	4,6-Dinitro-2-methylphenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW16-DEC2020	N	4-Chloro-3-methylphenol	10.0	7.70 U	7.70 X		ug/l	I
NHFLA-MW16-DEC2020	N	4-Nitrophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW16-DEC2020	N	Cresols, m- & p-	10.0	7.70 U	7.70 X		ug/l	I
NHFLA-MW16-DEC2020	N	Pentachlorophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW16-DEC2020	N	Phenol	10.0	7.70 U	7.70 X		ug/l	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Table of All Qualified Results

Test Method: BNASIM	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW11-DEC2020	N	Chrysene	0.190	0.0830 J	0.0940 U		ug/l	L
NHFLA-MW3-DEC2020	N	Chrysene	0.190	0.0380 J	0.0940 U		ug/l	L

Test Method: SW6020	Extraction Method: Dissolved							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW10-DEC2020	N	Aluminum	100	14.0 J	40.0 U		ug/l	V
NHFLA-MW10-DEC2020	N	Chromium	5.00	0.430 J	4.00 U		ug/l	V
NHFLA-MW10-DEC2020	N	Copper	3.00	0.880 J	2.00 U		ug/l	V
NHFLA-MW10-DEC2020	N	Nickel	2.00	3.99	3.99 J	+	ug/l	V
NHFLA-MW10-DEC2020	N	Zinc	10.0	4.20 J	8.00 U		ug/l	V
NHFLA-MW11-DEC2020	N	Chromium	5.00	4.74 J	5.00 U		ug/l	V
NHFLA-MW12-DEC2020	N	Aluminum	100	21.0 J	40.0 U		ug/l	V
NHFLA-MW12-DEC2020	N	Chromium	5.00	0.400 J	4.00 U		ug/l	V
NHFLA-MW12-DEC2020	N	Copper	3.00	1.70 J	2.00 U		ug/l	V
NHFLA-MW12-DEC2020	N	Nickel	2.00	6.16	6.16 J	+	ug/l	V
NHFLA-MW12-DEC2020	N	Zinc	10.0	4.30 J	8.00 U		ug/l	V
NHFLA-MW16-DEC2020	N	Aluminum	100	50.4 J	100 U		ug/l	V
NHFLA-MW16-DEC2020	N	Chromium	5.00	1.90 J	4.00 U		ug/l	V
NHFLA-MW16-DEC2020	N	Copper	3.00	0.760 J	2.00 U		ug/l	V
NHFLA-MW16-DEC2020	N	Zinc	10.0	4.50 J	8.00 U		ug/l	V
NHFLA-MW2-DEC2020	N	Chromium	5.00	0.460 J	4.00 U		ug/l	V
NHFLA-MW2-DEC2020	N	Copper	3.00	1.50 J	2.00 U		ug/l	V
NHFLA-MW3-DEC2020	N	Chromium	5.00	0.770 J	4.00 U		ug/l	V
NHFLA-MW3-DEC2020	N	Copper	3.00	1.80 J	2.00 U		ug/l	V

Test Method: SW6020	Extraction Method: SW3010							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB23-DEC2020	EB	Aluminum	100	7.30 J	40.0 U		ug/l	L
NHFLA-EB23-DEC2020	EB	Copper	3.00	0.530 J	2.00 U		ug/l	L
NHFLA-EB23-DEC2020	EB	Magnesium	100	13.0 J	80.0 U		ug/l	L
NHFLA-EB23-DEC2020	EB	Manganese	2.00	0.420 J	1.00 U		ug/l	L
NHFLA-MW10-DEC2020	N	Aluminum	100	42.0 J	100 U		ug/l	V/L
NHFLA-MW10-DEC2020	N	Chromium	5.00	0.550 J	4.00 U		ug/l	V
NHFLA-MW10-DEC2020	N	Copper	3.00	1.30 J	2.00 U		ug/l	V/L
NHFLA-MW11-DEC2020	N	Chromium	5.00	3.35 J	4.00 U		ug/l	V
NHFLA-MW12-DEC2020	N	Chromium	5.00	0.530 J	4.00 U		ug/l	V
NHFLA-MW12-DEC2020	N	Copper	3.00	1.80 J	2.00 U		ug/l	V/L
NHFLA-MW16-DEC2020	N	Aluminum	100	83.8 J	100 U		ug/l	V/L
NHFLA-MW16-DEC2020	N	Chromium	5.00	2.10 J	4.00 U		ug/l	V
NHFLA-MW16-DEC2020	N	Copper	3.00	0.900 J	2.00 U		ug/l	V/L
NHFLA-MW2-DEC2020	N	Aluminum	100	90.1 J	100 U		ug/l	V/L

Table of All Qualified Results

Test Method: SW6020	Extraction Method: SW3010							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW2-DEC2020	N	Chromium	5.00	0.370 J	4.00 U		ug/l	V
NHFLA-MW2-DEC2020	N	Copper	3.00	2.11 J	3.00 U		ug/l	V/L
NHFLA-MW3-DEC2020	N	Chromium	5.00	1.10 J	4.00 U		ug/l	V

Test Method: SW7196	Extraction Method: NONE							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB23-DEC2020	EB	Chromium, Hexavalent	0.0250	0.00410 J	0.0125 U		mg/l	L
NHFLA-MW12-DEC2020	N	Chromium, Hexavalent	0.0250	0.00120 J	0.0125 U		mg/l	V/L
NHFLA-MW2-DEC2020	N	Chromium, Hexavalent	0.0250	0.00510 J	0.0125 U		mg/l	V/L
NHFLA-MW3-DEC2020	N	Chromium, Hexavalent	0.0250	0.00190 J	0.0125 U		mg/l	V/L

Test Method: SW7470	Extraction Method: Dissolved							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW10-DEC2020	N	Mercury	0.200	0.0550 J	0.100 U		ug/l	V
NHFLA-MW11-DEC2020	N	Mercury	0.200	0.0580 J	0.100 U		ug/l	V
NHFLA-MW12-DEC2020	N	Mercury	0.200	0.0360 J	0.100 U		ug/l	V
NHFLA-MW16-DEC2020	N	Mercury	0.200	0.0250 J	0.100 U		ug/l	V
NHFLA-MW2-DEC2020	N	Mercury	0.200	0.0480 J	0.100 U		ug/l	V
NHFLA-MW3-DEC2020	N	Mercury	0.200	0.0300 J	0.100 U		ug/l	V

Test Method: SW7470	Extraction Method: METHOD							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB23-DEC2020	EB	Mercury	0.200	0.0330 J	0.100 U		ug/l	L
NHFLA-MW10-DEC2020	N	Mercury	0.200	0.0430 J	0.100 U		ug/l	V/L
NHFLA-MW11-DEC2020	N	Mercury	0.200	0.0330 J	0.100 U		ug/l	V/L
NHFLA-MW12-DEC2020	N	Mercury	0.200	0.0340 J	0.100 U		ug/l	V/L
NHFLA-MW16-DEC2020	N	Mercury	0.200	0.0290 J	0.100 U		ug/l	V/L
NHFLA-MW2-DEC2020	N	Mercury	0.200	0.0290 J	0.100 U		ug/l	V/L
NHFLA-MW3-DEC2020	N	Mercury	0.200	0.0400 J	0.100 U		ug/l	V/L

Test Method: SW8260	Extraction Method: SW5030							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW16-DEC2020	N	Acetone	5.00	11.0	11.0 J	+	ug/l	V

Test Method: SW8270	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB23-DEC2020	EB	2,3,4,6-Tetrachlorophenol	9.30	7.00 UL	7.00 X		ug/l	C/I
NHFLA-EB23-DEC2020	EB	2,4,5-Trichlorophenol	23.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB23-DEC2020	EB	2,4,6-Trichlorophenol	9.30	7.00 UL	7.00 X		ug/l	C/I
NHFLA-EB23-DEC2020	EB	2,4-Dichlorophenol	9.30	7.00 UL	7.00 X		ug/l	C/I
NHFLA-EB23-DEC2020	EB	2,4-Dimethylphenol	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-EB23-DEC2020	EB	2-Chlorophenol	9.30	7.00 UL	7.00 X		ug/l	C/I
NHFLA-EB23-DEC2020	EB	2-Methylphenol (o-Cresol)	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-EB23-DEC2020	EB	2-Nitrophenol	9.30	7.00 UL	7.00 X		ug/l	C/I
NHFLA-EB23-DEC2020	EB	4,6-Dinitro-2-methylphenol	23.0	18.0 UL	18.0 X		ug/l	C/I

Table of All Qualified Results

Test Method: SW8270 Extraction Method: SW3510

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB23-DEC2020	EB	4-Chloro-3-methylphenol	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-EB23-DEC2020	EB	Cresols, m- & p-	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-EB23-DEC2020	EB	Phenol	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-EB23-DEC2020	EB	2,4-Dinitrophenol	23.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB23-DEC2020	EB	4-Nitrophenol	23.0	18.0 U	18.0 X		ug/l	C/I
NHFLA-EB23-DEC2020	EB	Pentachlorophenol	23.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW10-DEC2020	N	2,3,4,6-Tetrachlorophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW10-DEC2020	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW10-DEC2020	N	2,4,6-Trichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW10-DEC2020	N	2,4-Dichlorophenol	9.40	7.10 UL	7.10 UJ		ug/l	C
NHFLA-MW10-DEC2020	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW10-DEC2020	N	2-Chlorophenol	9.40	7.10 UL	7.10 UJ		ug/l	C
NHFLA-MW10-DEC2020	N	2-Nitrophenol	9.40	7.10 UL	7.10 UJ		ug/l	C
NHFLA-MW10-DEC2020	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW10-DEC2020	N	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW10-DEC2020	N	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW11-DEC2020	N	2,3,4,6-Tetrachlorophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW11-DEC2020	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW11-DEC2020	N	2,4,6-Trichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW11-DEC2020	N	2,4-Dichlorophenol	9.40	7.10 UL	7.10 UJ		ug/l	C
NHFLA-MW11-DEC2020	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW11-DEC2020	N	2-Chlorophenol	9.40	7.10 UL	7.10 UJ		ug/l	C
NHFLA-MW11-DEC2020	N	2-Nitrophenol	9.40	7.10 UL	7.10 UJ		ug/l	C
NHFLA-MW11-DEC2020	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW11-DEC2020	N	4-Nitrophenol	24.0	18.0 U	18.0 X		ug/l	C
NHFLA-MW11-DEC2020	N	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW12-DEC2020	N	2,4,5-Trichlorophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW12-DEC2020	N	2,4,6-Trichlorophenol	10.0	7.70 UL	7.70 X		ug/l	C/I
NHFLA-MW12-DEC2020	N	2,4-Dimethylphenol	10.0	7.70 U	7.70 X		ug/l	I
NHFLA-MW12-DEC2020	N	2-Methylphenol (o-Cresol)	10.0	7.70 U	7.70 X		ug/l	I
NHFLA-MW12-DEC2020	N	4-Chloro-3-methylphenol	10.0	7.70 U	7.70 X		ug/l	I
NHFLA-MW12-DEC2020	N	Cresols, m- & p-	10.0	7.70 U	7.70 X		ug/l	I
NHFLA-MW12-DEC2020	N	Phenol	10.0	7.70 U	7.70 X		ug/l	I
NHFLA-MW12-DEC2020	N	2,3,4,6-Tetrachlorophenol	10.0	7.70 UL	7.70 X		ug/l	C/I
NHFLA-MW12-DEC2020	N	2,4-Dichlorophenol	10.0	7.70 UL	7.70 X		ug/l	C/I
NHFLA-MW12-DEC2020	N	2,4-Dinitrophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW12-DEC2020	N	2-Chlorophenol	10.0	7.70 UL	7.70 X		ug/l	C/I
NHFLA-MW12-DEC2020	N	2-Nitrophenol	10.0	7.70 UL	7.70 X		ug/l	C/I
NHFLA-MW12-DEC2020	N	4,6-Dinitro-2-methylphenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW12-DEC2020	N	4-Nitrophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW12-DEC2020	N	Pentachlorophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW16-DEC2020	N	2,3,4,6-Tetrachlorophenol	10.0	7.70 UL	7.70 X		ug/l	C/I

Table of All Qualified Results

Test Method: SW8270 Extraction Method: SW3510

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW16-DEC2020	N	2,4,5-Trichlorophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW16-DEC2020	N	2,4,6-Trichlorophenol	10.0	7.70 UL	7.70 X		ug/l	C/I
NHFLA-MW16-DEC2020	N	2,4-Dichlorophenol	10.0	7.70 UL	7.70 X		ug/l	C/I
NHFLA-MW16-DEC2020	N	2,4-Dimethylphenol	10.0	7.70 U	7.70 X		ug/l	I
NHFLA-MW16-DEC2020	N	2,4-Dinitrophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW16-DEC2020	N	2-Chlorophenol	10.0	7.70 UL	7.70 X		ug/l	C/I
NHFLA-MW16-DEC2020	N	2-Methylphenol (o-Cresol)	10.0	7.70 U	7.70 X		ug/l	I
NHFLA-MW16-DEC2020	N	2-Nitrophenol	10.0	7.70 UL	7.70 X		ug/l	C/I
NHFLA-MW16-DEC2020	N	4,6-Dinitro-2-methylphenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW16-DEC2020	N	4-Chloro-3-methylphenol	10.0	7.70 U	7.70 X		ug/l	I
NHFLA-MW16-DEC2020	N	Cresols, m- & p-	10.0	7.70 U	7.70 X		ug/l	I
NHFLA-MW16-DEC2020	N	Pentachlorophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW16-DEC2020	N	Phenol	10.0	7.70 U	7.70 X		ug/l	I
NHFLA-MW16-DEC2020	N	4-Nitrophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW2-DEC2020	N	2,3,4,6-Tetrachlorophenol	10.0	7.50 UL	7.50 X		ug/l	C
NHFLA-MW2-DEC2020	N	2,4,5-Trichlorophenol	25.0	19.0 UL	19.0 X		ug/l	C
NHFLA-MW2-DEC2020	N	2,4,6-Trichlorophenol	10.0	7.50 UL	7.50 X		ug/l	C
NHFLA-MW2-DEC2020	N	2,4-Dichlorophenol	10.0	7.50 UL	7.50 UJ		ug/l	C
NHFLA-MW2-DEC2020	N	2,4-Dinitrophenol	25.0	19.0 UL	19.0 X		ug/l	C
NHFLA-MW2-DEC2020	N	2-Chlorophenol	10.0	7.50 UL	7.50 UJ		ug/l	C
NHFLA-MW2-DEC2020	N	2-Nitrophenol	10.0	7.50 UL	7.50 UJ		ug/l	C
NHFLA-MW2-DEC2020	N	4,6-Dinitro-2-methylphenol	25.0	19.0 UL	19.0 X		ug/l	C
NHFLA-MW2-DEC2020	N	4-Nitrophenol	25.0	19.0 UL	19.0 X		ug/l	C
NHFLA-MW2-DEC2020	N	Pentachlorophenol	25.0	19.0 UL	19.0 X		ug/l	C
NHFLA-MW3-DEC2020	N	2,3,4,6-Tetrachlorophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW3-DEC2020	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW3-DEC2020	N	2,4,6-Trichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW3-DEC2020	N	2,4-Dichlorophenol	9.40	7.10 UL	7.10 UJ		ug/l	C
NHFLA-MW3-DEC2020	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW3-DEC2020	N	2-Chlorophenol	9.40	7.10 UL	7.10 UJ		ug/l	C
NHFLA-MW3-DEC2020	N	2-Nitrophenol	9.40	7.10 UL	7.10 UJ		ug/l	C
NHFLA-MW3-DEC2020	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW3-DEC2020	N	4-Nitrophenol	24.0	18.0 U	18.0 X		ug/l	C
NHFLA-MW3-DEC2020	N	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW10-DEC2020	N	Nickel	2.00	3.87	3.87 J	3.87	
NHFLA-MW10-DEC2020	N	Zinc	10.0	5.00 J	8.00 U	5.00 J	TR
NHFLA-MW12-DEC2020	N	Nickel	2.00	6.49	6.49 J	6.49	
NHFLA-MW16-DEC2020	N	Zinc	10.0	4.80 J	8.00 U	4.80 J	TR

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW2-DEC2020	N	1,1,1-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	1,1,2-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	1,1-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	1,1-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	1,2,3-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	1,2,4-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	1,2-Dibromo-3-chloropropane	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW2-DEC2020	N	1,2-Dibromoethane (EDB)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	1,2-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	1,2-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	1,2-Dichloropropane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	1,3-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	1,4-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	2-Butanone (MEK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW2-DEC2020	N	2-Hexanone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW2-DEC2020	N	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW2-DEC2020	N	Acetone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW2-DEC2020	N	Benzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	Bromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	Bromodichloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	Bromoform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	Bromomethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW2-DEC2020	N	Carbon disulfide	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	Carbon tetrachloride	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	Chlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	Chloroethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW2-DEC2020	N	Chloroform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	Chloromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW2-DEC2020	N	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	Cyclohexane	1.00	0.500 U	0.500 UJ	0.500 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW2-DEC2020	N	Dibromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	Dichlorodifluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW2-DEC2020	N	Ethylbenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	Isopropylbenzene (Cumene)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	m,p-Xylene	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW2-DEC2020	N	Methyl acetate	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW2-DEC2020	N	Methyl tert-butyl ether (MTBE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	Methylcyclohexane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	Methylene chloride	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW2-DEC2020	N	o-Xylene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	Styrene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	Toluene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	Trichloroethene (TCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW2-DEC2020	N	Trichlorofluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW2-DEC2020	N	Vinyl chloride	2.00	1.00 U	1.00 UJ	1.00 U	

Modified Qualifiers for test method SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB23-DEC2020	EB	1,2,4,5-Tetrachlorobenzene	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-EB23-DEC2020	EB	1,4-Dioxane (p-Dioxane)	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-EB23-DEC2020	EB	2,2'-Oxybis(1-chloropropane)	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-EB23-DEC2020	EB	2,4-Dinitrotoluene	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-EB23-DEC2020	EB	2,6-Dinitrotoluene	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-EB23-DEC2020	EB	2-Chloronaphthalene	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-EB23-DEC2020	EB	2-Nitroaniline	23.0	18.0 U	18.0 X	18.0 U	
NHFLA-EB23-DEC2020	EB	3,3'-Dichlorobenzidine	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-EB23-DEC2020	EB	3-Nitroaniline	23.0	18.0 U	18.0 X	18.0 U	
NHFLA-EB23-DEC2020	EB	4-Bromophenyl phenyl ether	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-EB23-DEC2020	EB	4-Chloroaniline	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-EB23-DEC2020	EB	4-Chlorophenyl phenyl ether	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-EB23-DEC2020	EB	4-Nitroaniline	23.0	18.0 U	18.0 X	18.0 U	
NHFLA-EB23-DEC2020	EB	Acetophenone	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-EB23-DEC2020	EB	Atrazine	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-EB23-DEC2020	EB	Benzaldehyde	9.30	7.00 UL	7.00 X	7.00 U	
NHFLA-EB23-DEC2020	EB	Benzyl butyl phthalate	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-EB23-DEC2020	EB	Biphenyl (Diphenyl)	9.30	7.00 U	7.00 X	7.00 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB23-DEC2020	EB	Bis(2-chloroethoxy)methane	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-EB23-DEC2020	EB	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-EB23-DEC2020	EB	Bis(2-ethylhexyl)phthalate	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-EB23-DEC2020	EB	Caprolactam	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-EB23-DEC2020	EB	Carbazole	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-EB23-DEC2020	EB	Dibenzofuran	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-EB23-DEC2020	EB	Diethyl phthalate	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-EB23-DEC2020	EB	Dimethyl phthalate	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-EB23-DEC2020	EB	Di-n-butyl phthalate	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-EB23-DEC2020	EB	di-n-Octyl phthalate	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-EB23-DEC2020	EB	Hexachlorobenzene	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-EB23-DEC2020	EB	Hexachlorobutadiene	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-EB23-DEC2020	EB	Hexachlorocyclopentadiene	9.30	7.00 U	7.00 X	7.00 XU	
NHFLA-EB23-DEC2020	EB	Hexachloroethane	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-EB23-DEC2020	EB	Isophorone	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-EB23-DEC2020	EB	Nitrobenzene	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-EB23-DEC2020	EB	N-Nitrosodi-n-propylamine	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-EB23-DEC2020	EB	N-Nitrosodiphenylamine	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW12-DEC2020	N	1,2,4,5-Tetrachlorobenzene	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW12-DEC2020	N	1,4-Dioxane (p-Dioxane)	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW12-DEC2020	N	2,2'-Oxybis(1-chloropropane)	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW12-DEC2020	N	2,4-Dinitrotoluene	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW12-DEC2020	N	2,6-Dinitrotoluene	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW12-DEC2020	N	2-Chloronaphthalene	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW12-DEC2020	N	2-Nitroaniline	26.0	19.0 U	19.0 X	19.0 U	
NHFLA-MW12-DEC2020	N	3,3'-Dichlorobenzidine	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW12-DEC2020	N	3-Nitroaniline	26.0	19.0 U	19.0 X	19.0 U	
NHFLA-MW12-DEC2020	N	4-Bromophenyl phenyl ether	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW12-DEC2020	N	4-Chloroaniline	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW12-DEC2020	N	4-Chlorophenyl phenyl ether	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW12-DEC2020	N	4-Nitroaniline	26.0	19.0 U	19.0 X	19.0 U	
NHFLA-MW12-DEC2020	N	Acetophenone	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW12-DEC2020	N	Atrazine	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW12-DEC2020	N	Benzaldehyde	10.0	7.70 UL	7.70 X	7.70 U	
NHFLA-MW12-DEC2020	N	Benzyl butyl phthalate	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW12-DEC2020	N	Biphenyl (Diphenyl)	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW12-DEC2020	N	Bis(2-chloroethoxy)methane	10.0	7.70 U	7.70 X	7.70 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW12-DEC2020	N	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW12-DEC2020	N	Bis(2-ethylhexyl)phthalate	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW12-DEC2020	N	Caprolactam	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW12-DEC2020	N	Carbazole	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW12-DEC2020	N	Dibenzofuran	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW12-DEC2020	N	Diethyl phthalate	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW12-DEC2020	N	Dimethyl phthalate	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW12-DEC2020	N	Di-n-butyl phthalate	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW12-DEC2020	N	di-n-Octyl phthalate	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW12-DEC2020	N	Hexachlorobenzene	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW12-DEC2020	N	Hexachlorobutadiene	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW12-DEC2020	N	Hexachlorocyclopentadiene	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW12-DEC2020	N	Hexachloroethane	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW12-DEC2020	N	Isophorone	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW12-DEC2020	N	Nitrobenzene	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW12-DEC2020	N	N-Nitrosodi-n-propylamine	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW12-DEC2020	N	N-Nitrosodiphenylamine	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW16-DEC2020	N	1,2,4,5-Tetrachlorobenzene	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW16-DEC2020	N	1,4-Dioxane (p-Dioxane)	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW16-DEC2020	N	2,2'-Oxybis(1-chloropropane)	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW16-DEC2020	N	2,4-Dinitrotoluene	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW16-DEC2020	N	2,6-Dinitrotoluene	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW16-DEC2020	N	2-Chloronaphthalene	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW16-DEC2020	N	2-Nitroaniline	26.0	19.0 U	19.0 X	19.0 U	
NHFLA-MW16-DEC2020	N	3,3'-Dichlorobenzidine	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW16-DEC2020	N	3-Nitroaniline	26.0	19.0 U	19.0 X	19.0 U	
NHFLA-MW16-DEC2020	N	4-Bromophenyl phenyl ether	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW16-DEC2020	N	4-Chloroaniline	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW16-DEC2020	N	4-Chlorophenyl phenyl ether	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW16-DEC2020	N	4-Nitroaniline	26.0	19.0 U	19.0 X	19.0 U	
NHFLA-MW16-DEC2020	N	Acetophenone	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW16-DEC2020	N	Atrazine	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW16-DEC2020	N	Benzaldehyde	10.0	7.70 UL	7.70 X	7.70 U	
NHFLA-MW16-DEC2020	N	Benzyl butyl phthalate	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW16-DEC2020	N	Biphenyl (Diphenyl)	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW16-DEC2020	N	Bis(2-chloroethoxy)methane	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW16-DEC2020	N	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	10.0	7.70 U	7.70 X	7.70 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW16-DEC2020	N	Bis(2-ethylhexyl)phthalate	10.0	2.20 J	2.20 J	2.20 J	TR
NHFLA-MW16-DEC2020	N	Caprolactam	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW16-DEC2020	N	Carbazole	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW16-DEC2020	N	Dibenzofuran	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW16-DEC2020	N	Diethyl phthalate	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW16-DEC2020	N	Dimethyl phthalate	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW16-DEC2020	N	Di-n-butyl phthalate	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW16-DEC2020	N	di-n-Octyl phthalate	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW16-DEC2020	N	Hexachlorobenzene	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW16-DEC2020	N	Hexachlorobutadiene	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW16-DEC2020	N	Hexachlorocyclopentadiene	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW16-DEC2020	N	Hexachloroethane	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW16-DEC2020	N	Isophorone	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW16-DEC2020	N	Nitrobenzene	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW16-DEC2020	N	N-Nitrosodi-n-propylamine	10.0	7.70 U	7.70 X	7.70 U	
NHFLA-MW16-DEC2020	N	N-Nitrosodiphenylamine	10.0	7.70 U	7.70 X	7.70 U	

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Rejected Results

Test Method: SW8270	Extraction Method: SW3510	Leach Method: NONE							
FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-EB23-DEC2020	TN0289-7	W	EB	2,3,4,6-Tetrachlorophenol	9.30	7.00 UL	7.00 X	ug/l	C/I
NHFLA-EB23-DEC2020	TN0289-7	W	EB	2,4,5-Trichlorophenol	23.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-EB23-DEC2020	TN0289-7	W	EB	2,4,6-Trichlorophenol	9.30	7.00 UL	7.00 X	ug/l	C/I
NHFLA-EB23-DEC2020	TN0289-7	W	EB	2,4-Dichlorophenol	9.30	7.00 UL	7.00 X	ug/l	C/I
NHFLA-EB23-DEC2020	TN0289-7	W	EB	2,4-Dimethylphenol	9.30	7.00 U	7.00 X	ug/l	I
NHFLA-EB23-DEC2020	TN0289-7	W	EB	2,4-Dinitrophenol	23.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-EB23-DEC2020	TN0289-7	W	EB	2-Chlorophenol	9.30	7.00 UL	7.00 X	ug/l	C/I
NHFLA-EB23-DEC2020	TN0289-7	W	EB	2-Methylphenol (o-Cresol)	9.30	7.00 U	7.00 X	ug/l	I
NHFLA-EB23-DEC2020	TN0289-7	W	EB	2-Nitrophenol	9.30	7.00 UL	7.00 X	ug/l	C/I
NHFLA-EB23-DEC2020	TN0289-7	W	EB	4,6-Dinitro-2-methylphenol	23.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-EB23-DEC2020	TN0289-7	W	EB	4-Chloro-3-methylphenol	9.30	7.00 U	7.00 X	ug/l	I
NHFLA-EB23-DEC2020	TN0289-7	W	EB	4-Nitrophenol	23.0	18.0 U	18.0 X	ug/l	C/I
NHFLA-EB23-DEC2020	TN0289-7	W	EB	Cresols, m- & p-	9.30	7.00 U	7.00 X	ug/l	I
NHFLA-EB23-DEC2020	TN0289-7	W	EB	Pentachlorophenol	23.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-EB23-DEC2020	TN0289-7	W	EB	Phenol	9.30	7.00 U	7.00 X	ug/l	I
NHFLA-MW10-DEC2020	TN0289-3	W	N	2,3,4,6-Tetrachlorophenol	9.40	7.10 UL	7.10 X	ug/l	C
NHFLA-MW10-DEC2020	TN0289-3	W	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-MW10-DEC2020	TN0289-3	W	N	2,4,6-Trichlorophenol	9.40	7.10 UL	7.10 X	ug/l	C
NHFLA-MW10-DEC2020	TN0289-3	W	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-MW10-DEC2020	TN0289-3	W	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-MW10-DEC2020	TN0289-3	W	N	4-Nitrophenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-MW10-DEC2020	TN0289-3	W	N	Pentachlorophenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-MW11-DEC2020	TN0289-6	W	N	2,3,4,6-Tetrachlorophenol	9.40	7.10 UL	7.10 X	ug/l	C
NHFLA-MW11-DEC2020	TN0289-6	W	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-MW11-DEC2020	TN0289-6	W	N	2,4,6-Trichlorophenol	9.40	7.10 UL	7.10 X	ug/l	C
NHFLA-MW11-DEC2020	TN0289-6	W	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X	ug/l	C

Rejected Results

Test Method: SW8270 Extraction Method: SW3510 Leach Method: NONE

FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-MW11-DEC2020	TN0289-6	W	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-MW11-DEC2020	TN0289-6	W	N	4-Nitrophenol	24.0	18.0 U	18.0 X	ug/l	C
NHFLA-MW11-DEC2020	TN0289-6	W	N	Pentachlorophenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-MW12-DEC2020	TN0289-2	W	N	2,3,4,6-Tetrachlorophenol	10.0	7.70 UL	7.70 X	ug/l	C/I
NHFLA-MW12-DEC2020	TN0289-2	W	N	2,4,5-Trichlorophenol	26.0	19.0 UL	19.0 X	ug/l	C/I
NHFLA-MW12-DEC2020	TN0289-2	W	N	2,4,6-Trichlorophenol	10.0	7.70 UL	7.70 X	ug/l	C/I
NHFLA-MW12-DEC2020	TN0289-2	W	N	2,4-Dichlorophenol	10.0	7.70 UL	7.70 X	ug/l	C/I
NHFLA-MW12-DEC2020	TN0289-2	W	N	2,4-Dimethylphenol	10.0	7.70 U	7.70 X	ug/l	I
NHFLA-MW12-DEC2020	TN0289-2	W	N	2,4-Dinitrophenol	26.0	19.0 UL	19.0 X	ug/l	C/I
NHFLA-MW12-DEC2020	TN0289-2	W	N	2-Chlorophenol	10.0	7.70 UL	7.70 X	ug/l	C/I
NHFLA-MW12-DEC2020	TN0289-2	W	N	2-Methylphenol (o-Cresol)	10.0	7.70 U	7.70 X	ug/l	I
NHFLA-MW12-DEC2020	TN0289-2	W	N	2-Nitrophenol	10.0	7.70 UL	7.70 X	ug/l	C/I
NHFLA-MW12-DEC2020	TN0289-2	W	N	4,6-Dinitro-2-methylphenol	26.0	19.0 UL	19.0 X	ug/l	C/I
NHFLA-MW12-DEC2020	TN0289-2	W	N	4-Chloro-3-methylphenol	10.0	7.70 U	7.70 X	ug/l	I
NHFLA-MW12-DEC2020	TN0289-2	W	N	4-Nitrophenol	26.0	19.0 UL	19.0 X	ug/l	C/I
NHFLA-MW12-DEC2020	TN0289-2	W	N	Cresols, m- & p-	10.0	7.70 U	7.70 X	ug/l	I
NHFLA-MW12-DEC2020	TN0289-2	W	N	Pentachlorophenol	26.0	19.0 UL	19.0 X	ug/l	C/I
NHFLA-MW12-DEC2020	TN0289-2	W	N	Phenol	10.0	7.70 U	7.70 X	ug/l	I
NHFLA-MW16-DEC2020	TN0289-1	W	N	2,3,4,6-Tetrachlorophenol	10.0	7.70 UL	7.70 X	ug/l	C/I
NHFLA-MW16-DEC2020	TN0289-1	W	N	2,4,5-Trichlorophenol	26.0	19.0 UL	19.0 X	ug/l	C/I
NHFLA-MW16-DEC2020	TN0289-1	W	N	2,4,6-Trichlorophenol	10.0	7.70 UL	7.70 X	ug/l	C/I
NHFLA-MW16-DEC2020	TN0289-1	W	N	2,4-Dichlorophenol	10.0	7.70 UL	7.70 X	ug/l	C/I
NHFLA-MW16-DEC2020	TN0289-1	W	N	2,4-Dimethylphenol	10.0	7.70 U	7.70 X	ug/l	I
NHFLA-MW16-DEC2020	TN0289-1	W	N	2,4-Dinitrophenol	26.0	19.0 UL	19.0 X	ug/l	C/I
NHFLA-MW16-DEC2020	TN0289-1	W	N	2-Chlorophenol	10.0	7.70 UL	7.70 X	ug/l	C/I
NHFLA-MW16-DEC2020	TN0289-1	W	N	2-Methylphenol (o-Cresol)	10.0	7.70 U	7.70 X	ug/l	I
NHFLA-MW16-DEC2020	TN0289-1	W	N	2-Nitrophenol	10.0	7.70 UL	7.70 X	ug/l	C/I
NHFLA-MW16-DEC2020	TN0289-1	W	N	4,6-Dinitro-2-methylphenol	26.0	19.0 UL	19.0 X	ug/l	C/I

Rejected Results

Test Method: SW8270	Extraction Method: SW3510	Leach Method: NONE							
FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-MW16-DEC2020	TN0289-1	W	N	4-Chloro-3-methylphenol	10.0	7.70 U	7.70 X	ug/l	I
NHFLA-MW16-DEC2020	TN0289-1	W	N	4-Nitrophenol	26.0	19.0 UL	19.0 X	ug/l	C/I
NHFLA-MW16-DEC2020	TN0289-1	W	N	Cresols, m- & p-	10.0	7.70 U	7.70 X	ug/l	I
NHFLA-MW16-DEC2020	TN0289-1	W	N	Pentachlorophenol	26.0	19.0 UL	19.0 X	ug/l	C/I
NHFLA-MW16-DEC2020	TN0289-1	W	N	Phenol	10.0	7.70 U	7.70 X	ug/l	I
NHFLA-MW2-DEC2020	TN0289-4	W	N	2,3,4,6-Tetrachlorophenol	10.0	7.50 UL	7.50 X	ug/l	C
NHFLA-MW2-DEC2020	TN0289-4	W	N	2,4,5-Trichlorophenol	25.0	19.0 UL	19.0 X	ug/l	C
NHFLA-MW2-DEC2020	TN0289-4	W	N	2,4,6-Trichlorophenol	10.0	7.50 UL	7.50 X	ug/l	C
NHFLA-MW2-DEC2020	TN0289-4	W	N	2,4-Dinitrophenol	25.0	19.0 UL	19.0 X	ug/l	C
NHFLA-MW2-DEC2020	TN0289-4	W	N	4,6-Dinitro-2-methylphenol	25.0	19.0 UL	19.0 X	ug/l	C
NHFLA-MW2-DEC2020	TN0289-4	W	N	4-Nitrophenol	25.0	19.0 UL	19.0 X	ug/l	C
NHFLA-MW2-DEC2020	TN0289-4	W	N	Pentachlorophenol	25.0	19.0 UL	19.0 X	ug/l	C
NHFLA-MW3-DEC2020	TN0289-5	W	N	2,3,4,6-Tetrachlorophenol	9.40	7.10 UL	7.10 X	ug/l	C
NHFLA-MW3-DEC2020	TN0289-5	W	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-MW3-DEC2020	TN0289-5	W	N	2,4,6-Trichlorophenol	9.40	7.10 UL	7.10 X	ug/l	C
NHFLA-MW3-DEC2020	TN0289-5	W	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-MW3-DEC2020	TN0289-5	W	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-MW3-DEC2020	TN0289-5	W	N	4-Nitrophenol	24.0	18.0 U	18.0 X	ug/l	C
NHFLA-MW3-DEC2020	TN0289-5	W	N	Pentachlorophenol	24.0	18.0 UL	18.0 X	ug/l	C

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
A2340B/METHOD/NONE	7	7
BNASIM/SW3510/NONE	2	12
SW6020/DSSVLD/NONE	1	1
SW6020/SW3010/NONE	1	1
SW8260/SW5030/NONE	2	2
SW8270/SW3510/NONE	2	10

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
A2340B/METHOD/NONE	NHFLA-EB23-DEC2020	EB	5	Hardness (as CaCO3)	160 J	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW10-DEC2020	N	5	Hardness (as CaCO3)	281000	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW11-DEC2020	N	5	Hardness (as CaCO3)	345000	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW12-DEC2020	N	5	Hardness (as CaCO3)	362000	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW16-DEC2020	N	5	Hardness (as CaCO3)	1700000	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW2-DEC2020	N	5	Hardness (as CaCO3)	25100	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW3-DEC2020	N	5	Hardness (as CaCO3)	781000	85.0	530	650	5	ug/L

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
BNASIM/SW3510/NONE	NHFLA-MW12-DEC2020	N	1	Benzo(a)anthracene	0.100 U	0.0470	0.100	0.210	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-MW12-DEC2020	N	1	Benzo(a)pyrene	0.100 U	0.0680	0.100	0.210	0.2	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
BNASIM/SW3510/NONE	NHFLA-MW12-DEC2020	N	1	Benzo(b)fluoranthene	0.100 U	0.0920	0.100	0.210	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-MW12-DEC2020	N	1	Dibenz(a,h)anthracene	0.100 U	0.0720	0.100	0.210	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-MW12-DEC2020	N	1	Indeno(1,2,3-c,d)pyrene	0.100 U	0.0540	0.100	0.210	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-MW12-DEC2020	N	1	Naphthalene	0.100 U	0.0660	0.100	0.210	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-MW16-DEC2020	N	1	Benzo(a)anthracene	0.100 U	0.0470	0.100	0.210	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-MW16-DEC2020	N	1	Benzo(a)pyrene	0.100 U	0.0680	0.100	0.210	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-MW16-DEC2020	N	1	Benzo(b)fluoranthene	0.100 U	0.0920	0.100	0.210	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-MW16-DEC2020	N	1	Dibenz(a,h)anthracene	0.100 U	0.0720	0.100	0.210	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-MW16-DEC2020	N	1	Indeno(1,2,3-c,d)pyrene	0.100 U	0.0540	0.100	0.210	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-MW16-DEC2020	N	1	Naphthalene	0.100 U	0.0660	0.100	0.210	0.2	ug/L

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6020/DSSVLD/NONE	NHFLA-MW3-DEC2020	N	50	Sodium	2210000	185	4000	10000	5000	ug/L

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6020/SW3010/NONE	NHFLA-MW3-DEC2020	N	50	Sodium	2130000	185	4000	10000	5000	ug/L

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8260/SW5030/NONE	NHFLA-EB23-DEC2020	EB	1	1,2-Dibromo-3-chloropropane	2.50 U	1.30	2.50	5.00	1	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8260/SW5030/NONE	NHFLA-TB32-DEC2020	TB	1	1,2-Dibromo-3-chloropropane	2.50 U	1.30	2.50	5.00	1	ug/L

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3510/NONE	NHFLA-MW12-DEC2020	N	1	2,4-Dinitrophenol	19.0 X	1.00	19.0	26.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-MW12-DEC2020	N	1	2-Nitroaniline	19.0 U	1.80	19.0	26.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-MW12-DEC2020	N	1	4,6-Dinitro-2-methylphenol	19.0 X	2.10	19.0	26.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-MW12-DEC2020	N	1	4-Nitroaniline	19.0 U	1.60	19.0	26.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-MW12-DEC2020	N	1	Pentachlorophenol	19.0 X	2.40	19.0	26.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-MW16-DEC2020	N	1	2,4-Dinitrophenol	19.0 X	1.00	19.0	26.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-MW16-DEC2020	N	1	2-Nitroaniline	19.0 U	1.80	19.0	26.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-MW16-DEC2020	N	1	4,6-Dinitro-2-methylphenol	19.0 X	2.10	19.0	26.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-MW16-DEC2020	N	1	4-Nitroaniline	19.0 U	1.60	19.0	26.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-MW16-DEC2020	N	1	Pentachlorophenol	19.0 X	2.40	19.0	26.0	25	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
C	LCS Recovery
H1	Test Hold Time
I	Surrogate recovery outside project limits.
L	Lab Blank
T	Trip Blank
TR	Trace Level Detect
V	Equipment Blank

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: A2340B (Hardness by Calculation)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?			•	
Were target analytes in the method blank less than MDL?			•	
Were target analytes in the field blank less than MDL?		•		Equipment blank detection below LOD did not result in qualification for field sample data.
Was an LCS/LCSD pair prepared and analyzed with each batch?			•	
Were LCS/LCSD recoveries within project acceptance limits?			•	
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: BNASIM (GC/MS-SIM Analysis by SW8270)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		QC batch LCS WG292266-2 had 1 of 3 surrogates biased high. Qualification of field results not required based on this high bias QC sample outlier.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch method blank WG292266-1 had a detection below LOD for CHRYSENE. Samples -005 and -006 were qualified as non-detect at LOD with U/L flags/reason codes.
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		ICV outliers as noted in SDG case narrative were not addressed as part of this stage 2A review.
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW6020 (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch prep blank PBWNL18IMW2 had detections below the LOD for aluminum, copper, magnesium, manganese and barium. The following field sample results were qualified non-detect at LOD with U/L flags reason codes: ALUMINUM - samples -001, -003, -004, -007. COPPER - samples -001, -002, -003, -004, -007. MAGNESIUM and MANGANESE - sample -007.
Were target analytes in the field blank less than MDL?		•		Equipment blanks had detections below the LOD for TOTAL and DISSOLVED metals - ALUMINUM, CALCIUM, CHROMIUM, COPPER, MAGNESIUM, MANGANESE, MERCURY, POTASSIUM and SODIUM and dissolved metals only for NICKEL and ZINC. See equipment blank detection qualification summary table for field sample results qualified non-detect at LOD with U/V flag/reason code based on appropriate equipment blank. The following results were qualified estimated with J/V flags reason codes based on equipment blank detections: DISSOLVED NICKEL - samples -010, -011. NOTE: Flags were removed for total nickel and total zinc since the total metals equipment blank did not have detections for these metals.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?			•	Spiked sample was not from this SDG so recovery data was not available.
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?	•			
Were the serial dilution RPD values within project acceptance limits?	•			
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			

Review Questions

Method: SW6020 (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW7196 (Chromium, Hexavalent (Colorimetric))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG292091 detection below LOD required qualification of non-detect at the LOD with U/L flag/reason code for sample -007.
Were target analytes in the field blank less than MDL?		•		Equipment blank detection below LOD required qualification of non-detect at LOD with V/L flags/reason codes for samples -002, -004, -005.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			MS only
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW7470 (Mercury in Liquid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		Prep blanks PBWNL18HGW4 and PBWNL29HGW1 had detections below the LOD. All field sample results qualified as non-detect at the LOD with U/L flags/reason codes.
Were target analytes in the field blank less than MDL?		•		Dissolved and Total metals equipment blanks had detections below the LOD. All field sample results were qualified non-detect at the LOD with U/V flags/reason codes.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?	•			
Were the post spike recoveries within project acceptance limits?	•			
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW8260 (Volatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			Sample -004 was analyzed on the 14th day so H1 qualifier flags and reason codes were removed for these sample results.
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		One of 4 surrogates was biased high for samples -003, -004, -005, -006. All associated sample results were non-detect so qualification was not required based on this high bias matrix QC outlier.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?		•		Equipment blank had detections above the LOQ for acetone and below the LOD for toluene. Client sample -001 acetone results were qualified as estimated with J/V/+ flags/reason codes. Trip blank had detections below the LOD for carbon disulfide and methylene chloride. Qualification was not required based on these trip blank detections.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			Spike samples were not from this SDG so recovery data was not available.
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		ICV and calibration outliers as noted in SDG case narrative were not addressed as part of this stage 2A review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW8270 (Semivolatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?		•		Samples -001RE, -002RE and -007RE were re-extracted outside of project criteria holding times. All associated results should be considered estimated. Re-analysis data for these samples was not available in the database so qualifications were not applied based on these hold time outliers.
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Acid fraction surrogates were biased low outside of rejection criteria for samples -001, -002, -007 so all acid fraction results for these samples were qualified as unusable with X/I flags/reason codes. NOTE: QC batch WG292265 method blank and LCS also had at least 2 acid fraction surrogate outliers biased low below rejection criteria.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch WG292265 LCS recoveries were biased low or non-detect for 10 acid fraction analytes (all acid fraction analytes except phenol, methyphenols, 2,4-dimethylphenol and 4 -chloro-3-methylphenol). All field sample acid fraction results for these analytes were qualified with either X/C or UJ/C flags/reason codes. QC batch WG292265 and WG292478 LCS high bias recovery outliers for benzaldehyde did not require qualification of client sample non-detect results.
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			Samples spiked were not from this SDG so recovery data was not available.
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		ICAL, ICV and CCV outliers as noted in SDG case narrative were not addressed as part of this stage 2A review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data recommended for rejection (exclusion) in the data validation process?	•			All ACID FRACTION analyte results for samples -001, -002 and -007 based on surrogate recovery outliers. Multiple acid fraction analyte results for samples -003, -004, -005, -006 based on LCS recovery outliers.

Data Validation Report for TN0328
REVISION 1 - Revision date 2021-04-01
REVISION SUMMARY: Checklist narration updated for LOD/LOQ clarification and Hexchrome control limit criteria reference.

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - December Groundwater Sampling
SDG:	TN0328
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Katahdin Analytical Services, Scarborough, ME
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	March 29, 2021 revised report April 1, 2021

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	A2340B	BNASIM	SW6020	SW6020 - Dissolved	SW7196	SW7470	SW7470 - Dissolved	SW8260	SW8270
NHFLA-EB24-DEC2020	TN0328-15	Water	Equipment Blank/EB				X			X		
NHFLA-EB24-DEC2020	TN0328-7	Water	Equipment Blank/EB	X	X	X		X	X		X	X
NHFLA-MW14-DEC2020	TN0328-12	Water	Field Sample/N				X			X		
NHFLA-MW14-DEC2020	TN0328-4	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW-1BR-DEC2020	TN0328-11	Water	Field Sample/N				X			X		
NHFLA-MW-1BR-DEC2020	TN0328-3	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW-1OB-DEC2020	TN0328-10	Water	Field Sample/N				X			X		
NHFLA-MW-1OB-DEC2020	TN0328-2	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW4BR-DEC2020	TN0328-14	Water	Field Sample/N				X			X		
NHFLA-MW4BR-DEC2020	TN0328-6	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW4OB-DEC2020	TN0328-13	Water	Field Sample/N				X			X		
NHFLA-MW4OB-DEC2020	TN0328-5	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW-5OB-DEC2020	TN0328-1	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW-5OB-DEC2020	TN0328-9	Water	Field Sample/N				X			X		
NHFLA-TB34-DEC2020	TN0328-8	Water	Trip Blank/TB								X	

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Katahdin Analytical Services, Scarborough, ME and were reported under sample delivery group (SDG) TN0328. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Extracted Internal Standard
- Lab Blank
- LCS Recovery
- LCS RPD
- MS Recovery
- MS RPD
- Prep Hold Time
- Surrogate
- Test Hold Time
- Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 176 results (14.43%) out of the 1220 results (sample and field QC samples) reported are qualified based on review and 101 results (8.28%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Analytical Method	Data Reviewer Comment
A2340B	No additional comments; see Checklist for detail.
BNASIM	No additional comments; see Checklist for detail.
SW6020	No additional comments; see Checklist for detail.
SW7196	No additional comments; see Checklist for detail.
SW7470	No additional comments; see Checklist for detail.
SW8260	No additional comments; see Checklist for detail.
SW8270	No additional comments; see Checklist for detail.

Jim Tomalia

April 1, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method BNASIM, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB24-DEC2020 (EB)/ TN0328-7	Chrysene	0.04100	< 0.035	< 0.19	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW14-DEC2020	N	Chrysene	0.190	0.0360 J	0.0970 U		ug/l	V
NHFLA-MW-1OB-DEC2020	N	Chrysene	0.200	0.0370 J	0.100 U		ug/l	V
NHFLA-MW4BR-DEC2020	N	Chrysene	0.210	0.120 J	0.210 U		ug/l	V
NHFLA-MW-5OB-DEC2020	N	Chrysene	0.190	0.0420 J	0.0940 U		ug/l	V

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Dissolved, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB24-DEC2020 (EB)/ TN0328-15	Chromium	0.2500	< 0.22	< 5	ug/l	U/None	V	
NHFLA-EB24-DEC2020 (EB)/ TN0328-15	Barium	0.4000	< 0.27	< 2	ug/l	U/None	V	
NHFLA-EB24-DEC2020 (EB)/ TN0328-15	Copper	0.6600	< 0.19	< 3	ug/l	U/None	V	
NHFLA-EB24-DEC2020 (EB)/ TN0328-15	Aluminum	15.00	< 4.4	< 100	ug/l	U/None	V	
NHFLA-EB24-DEC2020 (EB)/ TN0328-15	Magnesium	17.00	< 8	< 100	ug/l	U/None	V	
NHFLA-EB24-DEC2020 (EB)/ TN0328-15	Calcium	39.00	< 21	< 100	ug/l	U/None	V	
NHFLA-EB24-DEC2020 (EB)/ TN0328-15	Sodium	564.0	< 19	< 1000	ug/l	U/None	V	
NHFLA-EB24-DEC2020 (EB)/ TN0328-15	Potassium	69.00	< 31	< 1000	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW6020, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW14-DEC2020	N	Aluminum	100	19.0 J	40.0 U		ug/l	V
NHFLA-MW14-DEC2020	N	Chromium	5.00	0.380 J	4.00 U		ug/l	V
NHFLA-MW14-DEC2020	N	Copper	3.00	1.30 J	2.00 U		ug/l	V
NHFLA-MW-1BR-DEC2020	N	Aluminum	100	19.0 J	40.0 U		ug/l	V
NHFLA-MW-1BR-DEC2020	N	Chromium	5.00	0.680 J	4.00 U		ug/l	V
NHFLA-MW-1BR-DEC2020	N	Copper	3.00	0.890 J	2.00 U		ug/l	V
NHFLA-MW-1OB-DEC2020	N	Aluminum	100	21.0 J	40.0 U		ug/l	V
NHFLA-MW-1OB-DEC2020	N	Chromium	5.00	0.430 J	4.00 U		ug/l	V
NHFLA-MW-1OB-DEC2020	N	Copper	3.00	0.720 J	2.00 U		ug/l	V
NHFLA-MW4BR-DEC2020	N	Aluminum	100	30.0 J	40.0 U		ug/l	V
NHFLA-MW4BR-DEC2020	N	Chromium	5.00	0.840 J	4.00 U		ug/l	V
NHFLA-MW4OB-DEC2020	N	Aluminum	100	26.0 J	40.0 U		ug/l	V
NHFLA-MW4OB-DEC2020	N	Chromium	5.00	0.470 J	4.00 U		ug/l	V
NHFLA-MW4OB-DEC2020	N	Copper	3.00	1.10 J	2.00 U		ug/l	V/L
NHFLA-MW-5OB-DEC2020	N	Aluminum	100	13.0 J	40.0 U		ug/l	V
NHFLA-MW-5OB-DEC2020	N	Chromium	5.00	0.230 J	4.00 U		ug/l	V

Qualified Results associated with the Equipment Blank for SW6020, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW-5OB-DEC2020	N	Copper	3.00	0.680 J	2.00 U		ug/l	V

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB24-DEC2020 (EB)/ TN0328-7	Barium	0.4300	< 0.27	< 2	ug/l	U/None	V	
NHFLA-EB24-DEC2020 (EB)/ TN0328-7	Copper	0.7500	< 0.19	< 3	ug/l	U/None	V	
NHFLA-EB24-DEC2020 (EB)/ TN0328-7	Magnesium	16.00	< 8	< 100	ug/l	U/None	V	
NHFLA-EB24-DEC2020 (EB)/ TN0328-7	Potassium	48.00	< 31	< 1000	ug/l	U/None	V	
NHFLA-EB24-DEC2020 (EB)/ TN0328-7	Sodium	291.0	< 19	< 1000	ug/l	U/None	V	
NHFLA-EB24-DEC2020 (EB)/ TN0328-7	Aluminum	9.300	< 4.4	< 100	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW14-DEC2020	N	Aluminum	100	19.0 J	40.0 U		ug/l	V
NHFLA-MW14-DEC2020	N	Copper	3.00	1.30 J	2.00 U		ug/l	V
NHFLA-MW-1BR-DEC2020	N	Aluminum	100	19.0 J	40.0 U		ug/l	V
NHFLA-MW-1BR-DEC2020	N	Copper	3.00	0.890 J	2.00 U		ug/l	V
NHFLA-MW-1OB-DEC2020	N	Aluminum	100	21.0 J	40.0 U		ug/l	V
NHFLA-MW-1OB-DEC2020	N	Copper	3.00	0.720 J	2.00 U		ug/l	V
NHFLA-MW4BR-DEC2020	N	Aluminum	100	30.0 J	40.0 U		ug/l	V
NHFLA-MW4OB-DEC2020	N	Aluminum	100	26.0 J	40.0 U		ug/l	V
NHFLA-MW4OB-DEC2020	N	Copper	3.00	1.10 J	2.00 U		ug/l	V/L
NHFLA-MW-5OB-DEC2020	N	Aluminum	100	13.0 J	40.0 U		ug/l	V
NHFLA-MW-5OB-DEC2020	N	Copper	3.00	0.680 J	2.00 U		ug/l	V

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNL22IMW4 (LB)/ PBWNL22IMW4	Chromium	0.4100	< 0.22	< 5	ug/l	U/None	L	
PBWNL22IMW4 (LB)/ PBWNL22IMW4	Copper	0.7200	< 0.18	< 3	ug/l	U/None	L	
PBWNL22IMW4 (LB)/ PBWNL22IMW4	Magnesium	15.00	< 7.8	< 100	ug/l	U/None	L	
PBWNL22IMW4 (LB)/ PBWNL22IMW4	Potassium	44.00	< 31	< 1000	ug/l	U/None	L	
PBWNL22IMW4 (LB)/ PBWNL22IMW4	Aluminum	7.400	< 4.4	< 100	ug/l	U/None	L	
PBWNL22IMW4 (LB)/ PBWNL22IMW4	Sodium	86.00	< 19	< 1000	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB24-DEC2020	EB	Aluminum	100	9.30 J	40.0 U		ug/l	L
NHFLA-EB24-DEC2020	EB	Copper	3.00	0.750 J	2.00 U		ug/l	L
NHFLA-EB24-DEC2020	EB	Magnesium	100	16.0 J	80.0 U		ug/l	L
NHFLA-EB24-DEC2020	EB	Potassium	1000	48.0 J	400 U		ug/l	L
NHFLA-EB24-DEC2020	EB	Sodium	1000	291 J	400 U		ug/l	L
NHFLA-MW14-DEC2020	N	Aluminum	100	28.0 J	40.0 U		ug/l	V/L
NHFLA-MW14-DEC2020	N	Chromium	5.00	0.400 J	4.00 U		ug/l	V/L
NHFLA-MW14-DEC2020	N	Copper	3.00	1.60 J	2.00 U		ug/l	V/L
NHFLA-MW-1BR-DEC2020	N	Aluminum	100	24.0 J	40.0 U		ug/l	V/L
NHFLA-MW-1BR-DEC2020	N	Chromium	5.00	0.580 J	4.00 U		ug/l	V/L
NHFLA-MW-1BR-DEC2020	N	Copper	3.00	0.830 J	2.00 U		ug/l	V/L
NHFLA-MW-1OB-DEC2020	N	Aluminum	100	28.0 J	40.0 U		ug/l	V/L
NHFLA-MW-1OB-DEC2020	N	Chromium	5.00	0.500 J	4.00 U		ug/l	V/L
NHFLA-MW-1OB-DEC2020	N	Copper	3.00	2.97 J	3.00 U		ug/l	V/L
NHFLA-MW4BR-DEC2020	N	Aluminum	100	64.2 J	100 U		ug/l	V/L
NHFLA-MW4BR-DEC2020	N	Chromium	5.00	2.21 J	4.00 U		ug/l	V/L
NHFLA-MW4OB-DEC2020	N	Aluminum	100	93.0 J	100 U		ug/l	V/L
NHFLA-MW4OB-DEC2020	N	Chromium	5.00	0.700 J	4.00 U		ug/l	V/L
NHFLA-MW4OB-DEC2020	N	Copper	3.00	1.10 J	2.00 U		ug/l	V/L
NHFLA-MW-5OB-DEC2020	N	Aluminum	100	32.0 J	40.0 U		ug/l	V/L

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW-5OB-DEC2020	N	Chromium	5.00	0.330 J	4.00 U		ug/l	V/L
NHFLA-MW-5OB-DEC2020	N	Copper	3.00	0.770 J	2.00 U		ug/l	V/L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB24-DEC2020 (EB)/ TN0328-7	Chromium, Hexavalent	0.001500	< 0.00076	< 0.025	mg/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW14-DEC2020	N	Chromium, Hexavalent	0.0250	0.00400 J	0.0125 UJ		mg/l	V/L/H1
NHFLA-MW-1BR-DEC2020	N	Chromium, Hexavalent	0.0250	0.00290 J	0.0125 U		mg/l	V/L
NHFLA-MW-1OB-DEC2020	N	Chromium, Hexavalent	0.0250	0.0170 J	0.0250 U		mg/l	V/L
NHFLA-MW4BR-DEC2020	N	Chromium, Hexavalent	0.0250	0.00270 J	0.0125 U		mg/l	V/L
NHFLA-MW4OB-DEC2020	N	Chromium, Hexavalent	0.0250	0.00510 J	0.0125 U		mg/l	V/L
NHFLA-MW-5OB-DEC2020	N	Chromium, Hexavalent	0.0250	0.00240 J	0.0125 UJ		mg/l	V/L/H1

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG292118-1 (LB)/ WG292118-1	Chromium, Hexavalent	0.005600	< 0.00076	< 0.025	mg/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB24-DEC2020	EB	Chromium, Hexavalent	0.0250	0.00150 J	0.0125 UJ		mg/l	L/M
NHFLA-MW14-DEC2020	N	Chromium, Hexavalent	0.0250	0.00400 J	0.0125 UJ		mg/l	V/L/H1
NHFLA-MW-1BR-DEC2020	N	Chromium, Hexavalent	0.0250	0.00290 J	0.0125 U		mg/l	V/L
NHFLA-MW-1OB-DEC2020	N	Chromium, Hexavalent	0.0250	0.0170 J	0.0250 U		mg/l	V/L
NHFLA-MW4BR-DEC2020	N	Chromium, Hexavalent	0.0250	0.00270 J	0.0125 U		mg/l	V/L
NHFLA-MW4OB-DEC2020	N	Chromium, Hexavalent	0.0250	0.00510 J	0.0125 U		mg/l	V/L
NHFLA-MW-5OB-DEC2020	N	Chromium, Hexavalent	0.0250	0.00240 J	0.0125 UJ		mg/l	V/L/H1

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB24-DEC2020 (MS)/ WG292118-4	Chromium, Hexavalent	85.70	90 - 111	30 - 125	percent	J/UJ	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB24-DEC2020	EB	Chromium, Hexavalent	0.0250	0.00150 J	0.0125 UJ		mg/l	L/M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW14-DEC2020 (N)/ TN0328-4		24.23	< 24	< 48	hours	J/UJ	H1	Test Exceeds UWL
NHFLA-MW-5OB-DEC2020 (N)/ TN0328-1		24.03	< 24	< 48	hours	J/UJ	H1	Test Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Test Hold Time for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW14-DEC2020	N	Chromium, Hexavalent	0.0250	0.00400 J	0.0125 UJ		mg/l	V/L/H1
NHFLA-MW-5OB-DEC2020	N	Chromium, Hexavalent	0.0250	0.00240 J	0.0125 UJ		mg/l	V/L/H1

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7470, Dissolved, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB24-DEC2020 (EB)/ TN0328-15	Mercury	0.1540	< 0.013	< 0.2	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW7470, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW14-DEC2020	N	Mercury	0.200	0.161 J	0.200 U		ug/l	V
NHFLA-MW-1BR-DEC2020	N	Mercury	0.200	0.145 J	0.200 U		ug/l	V
NHFLA-MW-1OB-DEC2020	N	Mercury	0.200	0.146 J	0.200 U		ug/l	V
NHFLA-MW4BR-DEC2020	N	Mercury	0.200	0.166 J	0.200 U		ug/l	V
NHFLA-MW4OB-DEC2020	N	Mercury	0.200	0.200	0.200 U		ug/l	V
NHFLA-MW-5OB-DEC2020	N	Mercury	0.200	0.145 J	0.200 U		ug/l	V

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7470, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB24-DEC2020 (EB)/ TN0328-7	Mercury	0.1750	< 0.013	< 0.2	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW7470

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW14-DEC2020	N	Mercury	0.200	0.161 J	0.200 U		ug/l	V
NHFLA-MW-1BR-DEC2020	N	Mercury	0.200	0.145 J	0.200 U		ug/l	V
NHFLA-MW-1OB-DEC2020	N	Mercury	0.200	0.146 J	0.200 U		ug/l	V
NHFLA-MW4BR-DEC2020	N	Mercury	0.200	0.166 J	0.200 U		ug/l	V
NHFLA-MW4OB-DEC2020	N	Mercury	0.200	0.200	0.200 U		ug/l	V
NHFLA-MW-5OB-DEC2020	N	Mercury	0.200	0.145 J	0.200 U		ug/l	V

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB24-DEC2020 (EB)/ TN0328-7	Toluene	0.4600	< 0.27	< 1	ug/l	U/None	V	
NHFLA-EB24-DEC2020 (EB)/ TN0328-7	Acetone	4.200	< 2.2	< 5	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW4BR-DEC2020	N	Acetone	5.00	12.0	12.0 J	+	ug/l	V

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW14-DEC2020 (N)/ TN0328-4	1,2-Dichloroethane-d4	120.0	81 - 118	10 - 118	percent	J/None	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW14-DEC2020	N	Methylcyclohexane	1.00	0.910 J	0.910 J	+	ug/l	I/TR

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Trip Blank

The purpose of trip blanks is to determine the existence and magnitude of cross-contamination problems resulting from the shipping of samples. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in trip blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-TB34-DEC2020 (TB)/ TN0328-8	Methylene chloride	2.000	< 1.1	< 5	ug/l	U/None	T	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG292335-2 (BS)/ WG292335-2	4-Nitrophenol	0.000	10 - 114	10 - 114	percent	J/X	C	
WG292335-2 (BS)/ WG292335-2	2,4-Dinitrophenol	0.000	12 - 143	10 - 143	percent	J/X	C	
WG292335-2 (BS)/ WG292335-2	Hexachlorocyclopentadiene	0.000	23 - 70	10 - 70	percent	J/X	C	
WG292335-2 (BS)/ WG292335-2	Pentachlorophenol	0.000	35 - 138	10 - 138	percent	J/X	C	
WG292335-2 (BS)/ WG292335-2	4,6-Dinitro-2-methylphenol	0.000	44 - 137	10 - 137	percent	J/X	C	
WG292335-2 (BS)/ WG292335-2	2,4-Dichlorophenol	0.000	47 - 121	10 - 121	percent	J/X	C	
WG292335-2 (BS)/ WG292335-2	2-Nitrophenol	0.000	47 - 123	10 - 123	percent	J/X	C	
WG292335-2 (BS)/ WG292335-2	2,4,6-Trichlorophenol	0.000	50 - 125	10 - 125	percent	J/X	C	
WG292335-2 (BS)/ WG292335-2	2,3,4,6-Tetrachlorophenol	0.000	50 - 128	10 - 128	percent	J/X	C	
WG292335-2 (BS)/ WG292335-2	2,4,5-Trichlorophenol	0.000	53 - 123	10 - 123	percent	J/X	C	
WG292335-2 (BS)/ WG292335-2	2,4-Dinitrotoluene	0.000	57 - 128	10 - 128	percent	J/X	C	
WG292335-2 (BS)/ WG292335-2	4-Chloro-3-methylphenol	11.60	52 - 119	10 - 119	percent	J/UJ	C	
WG292335-2 (BS)/ WG292335-2	Phenol	2.640	10 - 78	10 - 78	percent	J/X	C	
WG292335-2 (BS)/ WG292335-2	2-Methylphenol (o-Cresol)	20.10	30 - 117	10 - 117	percent	J/UJ	C	
WG292335-2 (BS)/ WG292335-2	2-Chlorophenol	4.310	38 - 117	10 - 117	percent	J/X	C	
WG292335-2 (BS)/ WG292335-2	Cresols, m- & p-	9.560	29 - 110	10 - 110	percent	J/X	C	
WG292924-2RA (BS)/ WG292924-2RA	4-Nitrophenol	0.000	10 - 114	10 - 114	percent	J/X	C	
WG292924-2RA (BS)/ WG292924-2RA	2,4-Dinitrophenol	0.000	12 - 143	10 - 143	percent	J/X	C	
WG292924-2RA (BS)/ WG292924-2RA	Pentachlorophenol	0.000	35 - 138	10 - 138	percent	J/X	C	
WG292924-2RA (BS)/ WG292924-2RA	2-Chlorophenol	0.000	38 - 117	10 - 117	percent	J/X	C	
WG292924-2RA (BS)/ WG292924-2RA	4,6-Dinitro-2-methylphenol	0.000	44 - 137	10 - 137	percent	J/X	C	
WG292924-2RA (BS)/ WG292924-2RA	2,4-Dichlorophenol	0.000	47 - 121	10 - 121	percent	J/X	C	
WG292924-2RA (BS)/ WG292924-2RA	2-Nitrophenol	0.000	47 - 123	10 - 123	percent	J/X	C	
WG292924-2RA (BS)/ WG292924-2RA	2,4,6-Trichlorophenol	0.000	50 - 125	10 - 125	percent	J/X	C	
WG292924-2RA (BS)/ WG292924-2RA	2,3,4,6-Tetrachlorophenol	0.000	50 - 128	10 - 128	percent	J/X	C	

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG292924-2RA (BS)/ WG292924-2RA	2,4,5-Trichlorophenol	0.000	53 - 123	10 - 123	percent	J/X	C	
WG292924-2RA (BS)/ WG292924-2RA	Cresols, m- & p-	17.80	29 - 110	10 - 110	percent	J/UJ	C	
WG292924-2RA (BS)/ WG292924-2RA	Benzaldehyde	1940	10 - 189	10 - 189	percent	J/None	C	
WG292924-2RA (BS)/ WG292924-2RA	4-Chloro-3-methylphenol	21.50	52 - 119	10 - 119	percent	J/UJ	C	
WG292924-2RA (BS)/ WG292924-2RA	2-Methylphenol (o-Cresol)	27.70	30 - 117	10 - 117	percent	J/UJ	C	
WG292924-2RA (BS)/ WG292924-2RA	Phenol	3.230	10 - 78	10 - 78	percent	J/X	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB24-DEC2020	EB	2,3,4,6-Tetrachlorophenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	2,4,6-Trichlorophenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	2,4-Dichlorophenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	2,4-Dinitrotoluene	9.60	7.20 UL	7.20 X		ug/l	C
NHFLA-EB24-DEC2020	EB	2-Methylphenol (o-Cresol)	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	2-Nitrophenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	4-Chloro-3-methylphenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	Hexachlorocyclopentadiene	9.60	7.20 UL	7.20 X		ug/l	C
NHFLA-EB24-DEC2020	EB	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	Phenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	2-Chlorophenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	Cresols, m- & p-	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-MW14-DEC2020	N	2,3,4,6-Tetrachlorophenol	9.70	7.30 UL	7.30 X		ug/l	C
NHFLA-MW14-DEC2020	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW14-DEC2020	N	2,4,6-Trichlorophenol	9.70	7.30 UL	7.30 X		ug/l	C
NHFLA-MW14-DEC2020	N	2,4-Dichlorophenol	9.70	7.30 UL	7.30 X		ug/l	C
NHFLA-MW14-DEC2020	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW14-DEC2020	N	2,4-Dinitrotoluene	9.70	7.30 UL	7.30 X		ug/l	C
NHFLA-MW14-DEC2020	N	2-Methylphenol (o-Cresol)	9.70	7.30 UL	7.30 UJ		ug/l	C
NHFLA-MW14-DEC2020	N	2-Nitrophenol	9.70	7.30 UL	7.30 X		ug/l	C

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW14-DEC2020	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW14-DEC2020	N	4-Chloro-3-methylphenol	9.70	7.30 UL	7.30 UJ		ug/l	C
NHFLA-MW14-DEC2020	N	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW14-DEC2020	N	Hexachlorocyclopentadiene	9.70	7.30 UL	7.30 X		ug/l	C
NHFLA-MW14-DEC2020	N	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW14-DEC2020	N	Phenol	9.70	7.30 UL	7.30 X		ug/l	C
NHFLA-MW14-DEC2020	N	2-Chlorophenol	9.70	7.30 UL	7.30 X		ug/l	C
NHFLA-MW14-DEC2020	N	Cresols, m- & p-	9.70	7.30 UL	7.30 X		ug/l	C
NHFLA-MW-1BR-DEC2020	N	2,3,4,6-Tetrachlorophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-1BR-DEC2020	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW-1BR-DEC2020	N	2,4,6-Trichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-1BR-DEC2020	N	2,4-Dichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-1BR-DEC2020	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW-1BR-DEC2020	N	2,4-Dinitrotoluene	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-1BR-DEC2020	N	2-Methylphenol (o-Cresol)	9.40	7.10 UL	7.10 UJ		ug/l	C
NHFLA-MW-1BR-DEC2020	N	2-Nitrophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-1BR-DEC2020	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW-1BR-DEC2020	N	4-Chloro-3-methylphenol	9.40	7.10 UL	7.10 UJ		ug/l	C
NHFLA-MW-1BR-DEC2020	N	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW-1BR-DEC2020	N	Hexachlorocyclopentadiene	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-1BR-DEC2020	N	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW-1BR-DEC2020	N	Phenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-1BR-DEC2020	N	2-Chlorophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-1BR-DEC2020	N	Cresols, m- & p-	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-1OB-DEC2020	N	2,3,4,6-Tetrachlorophenol	10.0	7.60 UL	7.60 X		ug/l	C
NHFLA-MW-1OB-DEC2020	N	2,4,5-Trichlorophenol	26.0	19.0 UL	19.0 X		ug/l	C
NHFLA-MW-1OB-DEC2020	N	2,4,6-Trichlorophenol	10.0	7.60 UL	7.60 X		ug/l	C
NHFLA-MW-1OB-DEC2020	N	2,4-Dichlorophenol	10.0	7.60 UL	7.60 X		ug/l	C
NHFLA-MW-1OB-DEC2020	N	2,4-Dinitrophenol	26.0	19.0 UL	19.0 X		ug/l	C
NHFLA-MW-1OB-DEC2020	N	2,4-Dinitrotoluene	10.0	7.60 UL	7.60 X		ug/l	C

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW-1OB-DEC2020	N	2-Methylphenol (o-Cresol)	10.0	7.60 UL	7.60 UJ		ug/l	C
NHFLA-MW-1OB-DEC2020	N	2-Nitrophenol	10.0	7.60 UL	7.60 X		ug/l	C
NHFLA-MW-1OB-DEC2020	N	4,6-Dinitro-2-methylphenol	26.0	19.0 UL	19.0 X		ug/l	C
NHFLA-MW-1OB-DEC2020	N	4-Chloro-3-methylphenol	10.0	7.60 UL	7.60 UJ		ug/l	C
NHFLA-MW-1OB-DEC2020	N	4-Nitrophenol	26.0	19.0 UL	19.0 X		ug/l	C
NHFLA-MW-1OB-DEC2020	N	Hexachlorocyclopentadiene	10.0	7.60 UL	7.60 X		ug/l	C
NHFLA-MW-1OB-DEC2020	N	Pentachlorophenol	26.0	19.0 UL	19.0 X		ug/l	C
NHFLA-MW-1OB-DEC2020	N	Phenol	10.0	7.60 UL	7.60 X		ug/l	C
NHFLA-MW-1OB-DEC2020	N	2-Chlorophenol	10.0	7.60 UL	7.60 X		ug/l	C
NHFLA-MW-1OB-DEC2020	N	Cresols, m- & p-	10.0	7.60 UL	7.60 X		ug/l	C
NHFLA-MW4BR-DEC2020	N	2,3,4,6-Tetrachlorophenol	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4BR-DEC2020	N	2,4,5-Trichlorophenol	26.0	20.0 UL	20.0 X		ug/l	C
NHFLA-MW4BR-DEC2020	N	2,4,6-Trichlorophenol	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4BR-DEC2020	N	2,4-Dichlorophenol	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4BR-DEC2020	N	2,4-Dinitrophenol	26.0	20.0 UL	20.0 X		ug/l	C
NHFLA-MW4BR-DEC2020	N	2,4-Dinitrotoluene	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4BR-DEC2020	N	2-Methylphenol (o-Cresol)	10.0	7.80 UL	7.80 UJ		ug/l	C
NHFLA-MW4BR-DEC2020	N	2-Nitrophenol	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4BR-DEC2020	N	4,6-Dinitro-2-methylphenol	26.0	20.0 UL	20.0 X		ug/l	C
NHFLA-MW4BR-DEC2020	N	4-Chloro-3-methylphenol	10.0	7.80 UL	7.80 UJ		ug/l	C
NHFLA-MW4BR-DEC2020	N	4-Nitrophenol	26.0	20.0 UL	20.0 X		ug/l	C
NHFLA-MW4BR-DEC2020	N	Hexachlorocyclopentadiene	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4BR-DEC2020	N	Pentachlorophenol	26.0	20.0 UL	20.0 X		ug/l	C
NHFLA-MW4BR-DEC2020	N	Phenol	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4BR-DEC2020	N	2-Chlorophenol	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4BR-DEC2020	N	Cresols, m- & p-	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4OB-DEC2020	N	2,3,4,6-Tetrachlorophenol	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4OB-DEC2020	N	2,4,5-Trichlorophenol	26.0	20.0 UL	20.0 X		ug/l	C
NHFLA-MW4OB-DEC2020	N	2,4,6-Trichlorophenol	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4OB-DEC2020	N	2,4-Dichlorophenol	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4OB-DEC2020	N	2,4-Dinitrophenol	26.0	20.0 UL	20.0 X		ug/l	C
NHFLA-MW4OB-DEC2020	N	2,4-Dinitrotoluene	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4OB-DEC2020	N	2-Methylphenol (o-Cresol)	10.0	7.80 UL	7.80 UJ		ug/l	C
NHFLA-MW4OB-DEC2020	N	2-Nitrophenol	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4OB-DEC2020	N	4,6-Dinitro-2-methylphenol	26.0	20.0 UL	20.0 X		ug/l	C
NHFLA-MW4OB-DEC2020	N	4-Chloro-3-methylphenol	10.0	7.80 UL	7.80 UJ		ug/l	C
NHFLA-MW4OB-DEC2020	N	4-Nitrophenol	26.0	20.0 UL	20.0 X		ug/l	C

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW4OB-DEC2020	N	Hexachlorocyclopentadiene	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4OB-DEC2020	N	Pentachlorophenol	26.0	20.0 UL	20.0 X		ug/l	C
NHFLA-MW4OB-DEC2020	N	Phenol	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4OB-DEC2020	N	2-Chlorophenol	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4OB-DEC2020	N	Cresols, m- & p-	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW-5OB-DEC2020	N	2,3,4,6-Tetrachlorophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-5OB-DEC2020	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW-5OB-DEC2020	N	2,4,6-Trichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-5OB-DEC2020	N	2,4-Dichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-5OB-DEC2020	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW-5OB-DEC2020	N	2,4-Dinitrotoluene	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-5OB-DEC2020	N	2-Methylphenol (o-Cresol)	9.40	7.10 UL	7.10 UJ		ug/l	C
NHFLA-MW-5OB-DEC2020	N	2-Nitrophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-5OB-DEC2020	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW-5OB-DEC2020	N	4-Chloro-3-methylphenol	9.40	7.10 UL	7.10 UJ		ug/l	C
NHFLA-MW-5OB-DEC2020	N	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW-5OB-DEC2020	N	Hexachlorocyclopentadiene	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-5OB-DEC2020	N	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW-5OB-DEC2020	N	Phenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-5OB-DEC2020	N	2-Chlorophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-5OB-DEC2020	N	Cresols, m- & p-	9.40	7.10 UL	7.10 X		ug/l	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB24-DEC2020 (EB)/ TN0328-7	2-Fluorophenol	1.370	19 - 119	10 - 119	percent	J/X	I	
NHFLA-EB24-DEC2020 (EB)/ TN0328-7	2,4,6-Tribromophenol	1.700	43 - 140	10 - 140	percent	J/X	I	
NHFLA-EB24-DEC2020 (EB)/ TN0328-7	Phenol-d6	2.400	10 - 90	10 - 90	percent	J/X	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB24-DEC2020	EB	2,3,4,6-Tetrachlorophenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	2,4,6-Trichlorophenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	2,4-Dichlorophenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	2,4-Dimethylphenol	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-EB24-DEC2020	EB	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	2-Chlorophenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	2-Methylphenol (o-Cresol)	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	2-Nitrophenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	4-Chloro-3-methylphenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	Cresols, m- & p-	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	Phenol	9.60	7.20 UL	7.20 X		ug/l	C/I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Table of All Qualified Results

Test Method: BNASIM	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW14-DEC2020	N	Chrysene	0.190	0.0360 J	0.0970 U		ug/l	V
NHFLA-MW-1OB-DEC2020	N	Chrysene	0.200	0.0370 J	0.100 U		ug/l	V
NHFLA-MW4BR-DEC2020	N	Chrysene	0.210	0.120 J	0.210 U		ug/l	V
NHFLA-MW-5OB-DEC2020	N	Chrysene	0.190	0.0420 J	0.0940 U		ug/l	V

Test Method: SW6020	Extraction Method: Dissolved							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW14-DEC2020	N	Aluminum	100	19.0 J	40.0 U		ug/l	V
NHFLA-MW14-DEC2020	N	Chromium	5.00	0.380 J	4.00 U		ug/l	V
NHFLA-MW14-DEC2020	N	Copper	3.00	1.30 J	2.00 U		ug/l	V
NHFLA-MW-1BR-DEC2020	N	Aluminum	100	19.0 J	40.0 U		ug/l	V
NHFLA-MW-1BR-DEC2020	N	Chromium	5.00	0.680 J	4.00 U		ug/l	V
NHFLA-MW-1BR-DEC2020	N	Copper	3.00	0.890 J	2.00 U		ug/l	V
NHFLA-MW-1OB-DEC2020	N	Aluminum	100	21.0 J	40.0 U		ug/l	V
NHFLA-MW-1OB-DEC2020	N	Chromium	5.00	0.430 J	4.00 U		ug/l	V
NHFLA-MW-1OB-DEC2020	N	Copper	3.00	0.720 J	2.00 U		ug/l	V
NHFLA-MW4BR-DEC2020	N	Aluminum	100	30.0 J	40.0 U		ug/l	V
NHFLA-MW4BR-DEC2020	N	Chromium	5.00	0.840 J	4.00 U		ug/l	V
NHFLA-MW4OB-DEC2020	N	Aluminum	100	26.0 J	40.0 U		ug/l	V
NHFLA-MW4OB-DEC2020	N	Chromium	5.00	0.470 J	4.00 U		ug/l	V
NHFLA-MW-5OB-DEC2020	N	Aluminum	100	13.0 J	40.0 U		ug/l	V
NHFLA-MW-5OB-DEC2020	N	Chromium	5.00	0.230 J	4.00 U		ug/l	V
NHFLA-MW-5OB-DEC2020	N	Copper	3.00	0.680 J	2.00 U		ug/l	V

Test Method: SW6020	Extraction Method: SW3010							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB24-DEC2020	EB	Aluminum	100	9.30 J	40.0 U		ug/l	L
NHFLA-EB24-DEC2020	EB	Copper	3.00	0.750 J	2.00 U		ug/l	L
NHFLA-EB24-DEC2020	EB	Magnesium	100	16.0 J	80.0 U		ug/l	L
NHFLA-EB24-DEC2020	EB	Potassium	1000	48.0 J	400 U		ug/l	L
NHFLA-EB24-DEC2020	EB	Sodium	1000	291 J	400 U		ug/l	L
NHFLA-MW14-DEC2020	N	Aluminum	100	28.0 J	40.0 U		ug/l	V/L
NHFLA-MW14-DEC2020	N	Chromium	5.00	0.400 J	4.00 U		ug/l	V/L
NHFLA-MW14-DEC2020	N	Copper	3.00	1.60 J	2.00 U		ug/l	V/L
NHFLA-MW-1BR-DEC2020	N	Aluminum	100	24.0 J	40.0 U		ug/l	V/L
NHFLA-MW-1BR-DEC2020	N	Chromium	5.00	0.580 J	4.00 U		ug/l	V/L
NHFLA-MW-1BR-DEC2020	N	Copper	3.00	0.830 J	2.00 U		ug/l	V/L
NHFLA-MW-1OB-DEC2020	N	Aluminum	100	28.0 J	40.0 U		ug/l	V/L
NHFLA-MW-1OB-DEC2020	N	Chromium	5.00	0.500 J	4.00 U		ug/l	V/L
NHFLA-MW-1OB-DEC2020	N	Copper	3.00	2.97 J	3.00 U		ug/l	V/L
NHFLA-MW4BR-DEC2020	N	Aluminum	100	64.2 J	100 U		ug/l	V/L

Table of All Qualified Results

Test Method: SW6020 Extraction Method: SW3010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW4BR-DEC2020	N	Chromium	5.00	2.21 J	4.00 U		ug/l	V/L
NHFLA-MW4OB-DEC2020	N	Aluminum	100	93.0 J	100 U		ug/l	V/L
NHFLA-MW4OB-DEC2020	N	Chromium	5.00	0.700 J	4.00 U		ug/l	V/L
NHFLA-MW4OB-DEC2020	N	Copper	3.00	1.10 J	2.00 U		ug/l	V/L
NHFLA-MW-5OB-DEC2020	N	Aluminum	100	32.0 J	40.0 U		ug/l	V/L
NHFLA-MW-5OB-DEC2020	N	Chromium	5.00	0.330 J	4.00 U		ug/l	V/L
NHFLA-MW-5OB-DEC2020	N	Copper	3.00	0.770 J	2.00 U		ug/l	V/L

Test Method: SW7196 Extraction Method: NONE

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB24-DEC2020	EB	Chromium, Hexavalent	0.0250	0.00150 J	0.0125 UJ		mg/l	L/M
NHFLA-MW14-DEC2020	N	Chromium, Hexavalent	0.0250	0.00400 J	0.0125 UJ		mg/l	V/L/H1
NHFLA-MW-1BR-DEC2020	N	Chromium, Hexavalent	0.0250	0.00290 J	0.0125 U		mg/l	V/L
NHFLA-MW-1OB-DEC2020	N	Chromium, Hexavalent	0.0250	0.0170 J	0.0250 U		mg/l	V/L
NHFLA-MW4BR-DEC2020	N	Chromium, Hexavalent	0.0250	0.00270 J	0.0125 U		mg/l	V/L
NHFLA-MW4OB-DEC2020	N	Chromium, Hexavalent	0.0250	0.00510 J	0.0125 U		mg/l	V/L
NHFLA-MW-5OB-DEC2020	N	Chromium, Hexavalent	0.0250	0.00240 J	0.0125 UJ		mg/l	V/L/H1

Test Method: SW7470 Extraction Method: Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW14-DEC2020	N	Mercury	0.200	0.161 J	0.200 U		ug/l	V
NHFLA-MW-1BR-DEC2020	N	Mercury	0.200	0.145 J	0.200 U		ug/l	V
NHFLA-MW-1OB-DEC2020	N	Mercury	0.200	0.146 J	0.200 U		ug/l	V
NHFLA-MW4BR-DEC2020	N	Mercury	0.200	0.166 J	0.200 U		ug/l	V
NHFLA-MW4OB-DEC2020	N	Mercury	0.200	0.200	0.200 U		ug/l	V
NHFLA-MW-5OB-DEC2020	N	Mercury	0.200	0.145 J	0.200 U		ug/l	V

Test Method: SW7470 Extraction Method: Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW14-DEC2020	N	Mercury	0.200	0.180 J	0.200 U		ug/l	V
NHFLA-MW-1BR-DEC2020	N	Mercury	0.200	0.185 J	0.200 U		ug/l	V
NHFLA-MW-1OB-DEC2020	N	Mercury	0.200	0.195 J	0.200 U		ug/l	V
NHFLA-MW4BR-DEC2020	N	Mercury	0.200	0.210	0.210 J	+	ug/l	V
NHFLA-MW4OB-DEC2020	N	Mercury	0.200	0.144 J	0.200 U		ug/l	V
NHFLA-MW-5OB-DEC2020	N	Mercury	0.200	0.179 JA	0.200 U		ug/l	V/M2

Test Method: SW8260 Extraction Method: SW5030

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW14-DEC2020	N	Methylcyclohexane	1.00	0.910 J	0.910 J	+	ug/l	I/TR
NHFLA-MW4BR-DEC2020	N	Acetone	5.00	12.0	12.0 J	+	ug/l	V

Test Method: SW8270 Extraction Method: SW3510

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB24-DEC2020	EB	2,4-Dimethylphenol	9.60	7.20 U	7.20 X		ug/l	I
NHFLA-EB24-DEC2020	EB	2-Methylphenol (o-Cresol)	9.60	7.20 UL	7.20 X		ug/l	C/I

Table of All Qualified Results

Test Method: SW8270 Extraction Method: SW3510

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB24-DEC2020	EB	4-Chloro-3-methylphenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	Cresols, m- & p-	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	Phenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	2,3,4,6-Tetrachlorophenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	2,4,6-Trichlorophenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	2,4-Dichlorophenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	2,4-Dinitrotoluene	9.60	7.20 UL	7.20 X		ug/l	C
NHFLA-EB24-DEC2020	EB	2-Nitrophenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	Hexachlorocyclopentadiene	9.60	7.20 UL	7.20 X		ug/l	C
NHFLA-EB24-DEC2020	EB	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB24-DEC2020	EB	2-Chlorophenol	9.60	7.20 UL	7.20 X		ug/l	C/I
NHFLA-MW14-DEC2020	N	2,3,4,6-Tetrachlorophenol	9.70	7.30 UL	7.30 X		ug/l	C
NHFLA-MW14-DEC2020	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW14-DEC2020	N	2,4,6-Trichlorophenol	9.70	7.30 UL	7.30 X		ug/l	C
NHFLA-MW14-DEC2020	N	2,4-Dichlorophenol	9.70	7.30 UL	7.30 X		ug/l	C
NHFLA-MW14-DEC2020	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW14-DEC2020	N	2,4-Dinitrotoluene	9.70	7.30 UL	7.30 X		ug/l	C
NHFLA-MW14-DEC2020	N	2-Methylphenol (o-Cresol)	9.70	7.30 UL	7.30 UJ		ug/l	C
NHFLA-MW14-DEC2020	N	2-Nitrophenol	9.70	7.30 UL	7.30 X		ug/l	C
NHFLA-MW14-DEC2020	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW14-DEC2020	N	4-Chloro-3-methylphenol	9.70	7.30 UL	7.30 UJ		ug/l	C
NHFLA-MW14-DEC2020	N	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW14-DEC2020	N	Hexachlorocyclopentadiene	9.70	7.30 UL	7.30 X		ug/l	C
NHFLA-MW14-DEC2020	N	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW14-DEC2020	N	Phenol	9.70	7.30 UL	7.30 X		ug/l	C
NHFLA-MW14-DEC2020	N	2-Chlorophenol	9.70	7.30 UL	7.30 X		ug/l	C
NHFLA-MW14-DEC2020	N	Cresols, m- & p-	9.70	7.30 UL	7.30 X		ug/l	C
NHFLA-MW-1BR-DEC2020	N	2,3,4,6-Tetrachlorophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-1BR-DEC2020	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW-1BR-DEC2020	N	2,4,6-Trichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-1BR-DEC2020	N	2,4-Dichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-1BR-DEC2020	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW-1BR-DEC2020	N	2,4-Dinitrotoluene	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-1BR-DEC2020	N	2-Methylphenol (o-Cresol)	9.40	7.10 UL	7.10 UJ		ug/l	C
NHFLA-MW-1BR-DEC2020	N	2-Nitrophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-1BR-DEC2020	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW-1BR-DEC2020	N	4-Chloro-3-methylphenol	9.40	7.10 UL	7.10 UJ		ug/l	C

Table of All Qualified Results

Test Method: SW8270 Extraction Method: SW3510

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW-1BR-DEC2020	N	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW-1BR-DEC2020	N	Hexachlorocyclopentadiene	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-1BR-DEC2020	N	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW-1BR-DEC2020	N	Phenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-1BR-DEC2020	N	2-Chlorophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-1BR-DEC2020	N	Cresols, m- & p-	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-1OB-DEC2020	N	2,3,4,6-Tetrachlorophenol	10.0	7.60 UL	7.60 X		ug/l	C
NHFLA-MW-1OB-DEC2020	N	2,4,5-Trichlorophenol	26.0	19.0 UL	19.0 X		ug/l	C
NHFLA-MW-1OB-DEC2020	N	2,4,6-Trichlorophenol	10.0	7.60 UL	7.60 X		ug/l	C
NHFLA-MW-1OB-DEC2020	N	2,4-Dichlorophenol	10.0	7.60 UL	7.60 X		ug/l	C
NHFLA-MW-1OB-DEC2020	N	2,4-Dinitrophenol	26.0	19.0 UL	19.0 X		ug/l	C
NHFLA-MW-1OB-DEC2020	N	2,4-Dinitrotoluene	10.0	7.60 UL	7.60 X		ug/l	C
NHFLA-MW-1OB-DEC2020	N	2-Methylphenol (o-Cresol)	10.0	7.60 UL	7.60 UJ		ug/l	C
NHFLA-MW-1OB-DEC2020	N	2-Nitrophenol	10.0	7.60 UL	7.60 X		ug/l	C
NHFLA-MW-1OB-DEC2020	N	4,6-Dinitro-2-methylphenol	26.0	19.0 UL	19.0 X		ug/l	C
NHFLA-MW-1OB-DEC2020	N	4-Chloro-3-methylphenol	10.0	7.60 UL	7.60 UJ		ug/l	C
NHFLA-MW-1OB-DEC2020	N	4-Nitrophenol	26.0	19.0 UL	19.0 X		ug/l	C
NHFLA-MW-1OB-DEC2020	N	Hexachlorocyclopentadiene	10.0	7.60 UL	7.60 X		ug/l	C
NHFLA-MW-1OB-DEC2020	N	Pentachlorophenol	26.0	19.0 UL	19.0 X		ug/l	C
NHFLA-MW-1OB-DEC2020	N	Phenol	10.0	7.60 UL	7.60 X		ug/l	C
NHFLA-MW-1OB-DEC2020	N	2-Chlorophenol	10.0	7.60 UL	7.60 X		ug/l	C
NHFLA-MW-1OB-DEC2020	N	Cresols, m- & p-	10.0	7.60 UL	7.60 X		ug/l	C
NHFLA-MW4BR-DEC2020	N	2,3,4,6-Tetrachlorophenol	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4BR-DEC2020	N	2,4,5-Trichlorophenol	26.0	20.0 UL	20.0 X		ug/l	C
NHFLA-MW4BR-DEC2020	N	2,4,6-Trichlorophenol	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4BR-DEC2020	N	2,4-Dichlorophenol	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4BR-DEC2020	N	2,4-Dinitrophenol	26.0	20.0 UL	20.0 X		ug/l	C
NHFLA-MW4BR-DEC2020	N	2,4-Dinitrotoluene	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4BR-DEC2020	N	2-Methylphenol (o-Cresol)	10.0	7.80 UL	7.80 UJ		ug/l	C
NHFLA-MW4BR-DEC2020	N	2-Nitrophenol	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4BR-DEC2020	N	4,6-Dinitro-2-methylphenol	26.0	20.0 UL	20.0 X		ug/l	C
NHFLA-MW4BR-DEC2020	N	4-Chloro-3-methylphenol	10.0	7.80 UL	7.80 UJ		ug/l	C
NHFLA-MW4BR-DEC2020	N	4-Nitrophenol	26.0	20.0 UL	20.0 X		ug/l	C
NHFLA-MW4BR-DEC2020	N	Hexachlorocyclopentadiene	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4BR-DEC2020	N	Pentachlorophenol	26.0	20.0 UL	20.0 X		ug/l	C
NHFLA-MW4BR-DEC2020	N	Phenol	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4BR-DEC2020	N	2-Chlorophenol	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4BR-DEC2020	N	Cresols, m- & p-	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4OB-DEC2020	N	2,3,4,6-Tetrachlorophenol	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4OB-DEC2020	N	2,4,5-Trichlorophenol	26.0	20.0 UL	20.0 X		ug/l	C

Table of All Qualified Results

Test Method: SW8270 Extraction Method: SW3510

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW4OB-DEC2020	N	2,4,6-Trichlorophenol	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4OB-DEC2020	N	2,4-Dichlorophenol	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4OB-DEC2020	N	2,4-Dinitrophenol	26.0	20.0 UL	20.0 X		ug/l	C
NHFLA-MW4OB-DEC2020	N	2,4-Dinitrotoluene	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4OB-DEC2020	N	2-Methylphenol (o-Cresol)	10.0	7.80 UL	7.80 UJ		ug/l	C
NHFLA-MW4OB-DEC2020	N	2-Nitrophenol	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4OB-DEC2020	N	4,6-Dinitro-2-methylphenol	26.0	20.0 UL	20.0 X		ug/l	C
NHFLA-MW4OB-DEC2020	N	4-Chloro-3-methylphenol	10.0	7.80 UL	7.80 UJ		ug/l	C
NHFLA-MW4OB-DEC2020	N	4-Nitrophenol	26.0	20.0 UL	20.0 X		ug/l	C
NHFLA-MW4OB-DEC2020	N	Hexachlorocyclopentadiene	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4OB-DEC2020	N	Pentachlorophenol	26.0	20.0 UL	20.0 X		ug/l	C
NHFLA-MW4OB-DEC2020	N	Phenol	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4OB-DEC2020	N	2-Chlorophenol	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW4OB-DEC2020	N	Cresols, m- & p-	10.0	7.80 UL	7.80 X		ug/l	C
NHFLA-MW-5OB-DEC2020	N	2,3,4,6-Tetrachlorophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-5OB-DEC2020	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW-5OB-DEC2020	N	2,4,6-Trichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-5OB-DEC2020	N	2,4-Dichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-5OB-DEC2020	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW-5OB-DEC2020	N	2,4-Dinitrotoluene	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-5OB-DEC2020	N	2-Methylphenol (o-Cresol)	9.40	7.10 UL	7.10 UJ		ug/l	C
NHFLA-MW-5OB-DEC2020	N	2-Nitrophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-5OB-DEC2020	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW-5OB-DEC2020	N	4-Chloro-3-methylphenol	9.40	7.10 UL	7.10 UJ		ug/l	C
NHFLA-MW-5OB-DEC2020	N	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW-5OB-DEC2020	N	Hexachlorocyclopentadiene	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-5OB-DEC2020	N	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C
NHFLA-MW-5OB-DEC2020	N	Phenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-5OB-DEC2020	N	2-Chlorophenol	9.40	7.10 UL	7.10 X		ug/l	C
NHFLA-MW-5OB-DEC2020	N	Cresols, m- & p-	9.40	7.10 UL	7.10 X		ug/l	C

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW7470

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW-5OB-DEC2020	N	Mercury	0.200	0.179 JA	0.200 U	0.200 U	V/M2

Modified Qualifiers for test method SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB24-DEC2020	EB	1,2,4,5-Tetrachlorobenzene	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB24-DEC2020	EB	1,4-Dioxane (p-Dioxane)	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB24-DEC2020	EB	2,2'-Oxybis(1-chloropropane)	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB24-DEC2020	EB	2,4-Dinitrotoluene	9.60	7.20 UL	7.20 X	7.20 X	C
NHFLA-EB24-DEC2020	EB	2,6-Dinitrotoluene	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB24-DEC2020	EB	2-Chloronaphthalene	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB24-DEC2020	EB	2-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	
NHFLA-EB24-DEC2020	EB	3,3'-Dichlorobenzidine	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB24-DEC2020	EB	3-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	
NHFLA-EB24-DEC2020	EB	4-Bromophenyl phenyl ether	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB24-DEC2020	EB	4-Chloroaniline	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB24-DEC2020	EB	4-Chlorophenyl phenyl ether	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB24-DEC2020	EB	4-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	
NHFLA-EB24-DEC2020	EB	Acetophenone	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB24-DEC2020	EB	Atrazine	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB24-DEC2020	EB	Benzaldehyde	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB24-DEC2020	EB	Benzyl butyl phthalate	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB24-DEC2020	EB	Biphenyl (Diphenyl)	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB24-DEC2020	EB	Bis(2-chloroethoxy)methane	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB24-DEC2020	EB	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB24-DEC2020	EB	Bis(2-ethylhexyl)phthalate	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB24-DEC2020	EB	Caprolactam	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB24-DEC2020	EB	Carbazole	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB24-DEC2020	EB	Dibenzofuran	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB24-DEC2020	EB	Diethyl phthalate	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB24-DEC2020	EB	Dimethyl phthalate	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB24-DEC2020	EB	Di-n-butyl phthalate	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB24-DEC2020	EB	di-n-Octyl phthalate	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB24-DEC2020	EB	Hexachlorobenzene	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB24-DEC2020	EB	Hexachlorobutadiene	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB24-DEC2020	EB	Hexachlorocyclopentadiene	9.60	7.20 UL	7.20 X	7.20 X	C
NHFLA-EB24-DEC2020	EB	Hexachloroethane	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB24-DEC2020	EB	Isophorone	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB24-DEC2020	EB	Nitrobenzene	9.60	7.20 U	7.20 X	7.20 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB24-DEC2020	EB	N-Nitrosodi-n-propylamine	9.60	7.20 U	7.20 X	7.20 U	
NHFLA-EB24-DEC2020	EB	N-Nitrosodiphenylamine	9.60	7.20 U	7.20 X	7.20 U	

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Rejected Results

Test Method: SW8270	Extraction Method: SW3510	Leach Method: NONE							
FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-EB24-DEC2020	TN0328-7	W	EB	2,3,4,6-Tetrachlorophenol	9.60	7.20 UL	7.20 X	ug/l	C/I
NHFLA-EB24-DEC2020	TN0328-7	W	EB	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-EB24-DEC2020	TN0328-7	W	EB	2,4,6-Trichlorophenol	9.60	7.20 UL	7.20 X	ug/l	C/I
NHFLA-EB24-DEC2020	TN0328-7	W	EB	2,4-Dichlorophenol	9.60	7.20 UL	7.20 X	ug/l	C/I
NHFLA-EB24-DEC2020	TN0328-7	W	EB	2,4-Dimethylphenol	9.60	7.20 U	7.20 X	ug/l	I
NHFLA-EB24-DEC2020	TN0328-7	W	EB	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-EB24-DEC2020	TN0328-7	W	EB	2,4-Dinitrotoluene	9.60	7.20 UL	7.20 X	ug/l	C
NHFLA-EB24-DEC2020	TN0328-7	W	EB	2-Chlorophenol	9.60	7.20 UL	7.20 X	ug/l	C/I
NHFLA-EB24-DEC2020	TN0328-7	W	EB	2-Methylphenol (o-Cresol)	9.60	7.20 UL	7.20 X	ug/l	C/I
NHFLA-EB24-DEC2020	TN0328-7	W	EB	2-Nitrophenol	9.60	7.20 UL	7.20 X	ug/l	C/I
NHFLA-EB24-DEC2020	TN0328-7	W	EB	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-EB24-DEC2020	TN0328-7	W	EB	4-Chloro-3-methylphenol	9.60	7.20 UL	7.20 X	ug/l	C/I
NHFLA-EB24-DEC2020	TN0328-7	W	EB	4-Nitrophenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-EB24-DEC2020	TN0328-7	W	EB	Cresols, m- & p-	9.60	7.20 UL	7.20 X	ug/l	C/I
NHFLA-EB24-DEC2020	TN0328-7	W	EB	Hexachlorocyclopentadiene	9.60	7.20 UL	7.20 X	ug/l	C
NHFLA-EB24-DEC2020	TN0328-7	W	EB	Pentachlorophenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-EB24-DEC2020	TN0328-7	W	EB	Phenol	9.60	7.20 UL	7.20 X	ug/l	C/I
NHFLA-MW14-DEC2020	TN0328-4	W	N	2,3,4,6-Tetrachlorophenol	9.70	7.30 UL	7.30 X	ug/l	C
NHFLA-MW14-DEC2020	TN0328-4	W	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-MW14-DEC2020	TN0328-4	W	N	2,4,6-Trichlorophenol	9.70	7.30 UL	7.30 X	ug/l	C
NHFLA-MW14-DEC2020	TN0328-4	W	N	2,4-Dichlorophenol	9.70	7.30 UL	7.30 X	ug/l	C
NHFLA-MW14-DEC2020	TN0328-4	W	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-MW14-DEC2020	TN0328-4	W	N	2,4-Dinitrotoluene	9.70	7.30 UL	7.30 X	ug/l	C
NHFLA-MW14-DEC2020	TN0328-4	W	N	2-Chlorophenol	9.70	7.30 UL	7.30 X	ug/l	C
NHFLA-MW14-DEC2020	TN0328-4	W	N	2-Nitrophenol	9.70	7.30 UL	7.30 X	ug/l	C
NHFLA-MW14-DEC2020	TN0328-4	W	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X	ug/l	C

Automated Data Review Detail Report for TN0328
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Rejected Results

Test Method: SW8270	Extraction Method: SW3510	Leach Method: NONE							
FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-MW14-DEC2020	TN0328-4	W	N	4-Nitrophenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-MW14-DEC2020	TN0328-4	W	N	Cresols, m- & p-	9.70	7.30 UL	7.30 X	ug/l	C
NHFLA-MW14-DEC2020	TN0328-4	W	N	Hexachlorocyclopentadiene	9.70	7.30 UL	7.30 X	ug/l	C
NHFLA-MW14-DEC2020	TN0328-4	W	N	Pentachlorophenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-MW14-DEC2020	TN0328-4	W	N	Phenol	9.70	7.30 UL	7.30 X	ug/l	C
NHFLA-MW-1BR-DEC2020	TN0328-3	W	N	2,3,4,6-Tetrachlorophenol	9.40	7.10 UL	7.10 X	ug/l	C
NHFLA-MW-1BR-DEC2020	TN0328-3	W	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-MW-1BR-DEC2020	TN0328-3	W	N	2,4,6-Trichlorophenol	9.40	7.10 UL	7.10 X	ug/l	C
NHFLA-MW-1BR-DEC2020	TN0328-3	W	N	2,4-Dichlorophenol	9.40	7.10 UL	7.10 X	ug/l	C
NHFLA-MW-1BR-DEC2020	TN0328-3	W	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-MW-1BR-DEC2020	TN0328-3	W	N	2,4-Dinitrotoluene	9.40	7.10 UL	7.10 X	ug/l	C
NHFLA-MW-1BR-DEC2020	TN0328-3	W	N	2-Chlorophenol	9.40	7.10 UL	7.10 X	ug/l	C
NHFLA-MW-1BR-DEC2020	TN0328-3	W	N	2-Nitrophenol	9.40	7.10 UL	7.10 X	ug/l	C
NHFLA-MW-1BR-DEC2020	TN0328-3	W	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-MW-1BR-DEC2020	TN0328-3	W	N	4-Nitrophenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-MW-1BR-DEC2020	TN0328-3	W	N	Cresols, m- & p-	9.40	7.10 UL	7.10 X	ug/l	C
NHFLA-MW-1BR-DEC2020	TN0328-3	W	N	Hexachlorocyclopentadiene	9.40	7.10 UL	7.10 X	ug/l	C
NHFLA-MW-1BR-DEC2020	TN0328-3	W	N	Pentachlorophenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-MW-1BR-DEC2020	TN0328-3	W	N	Phenol	9.40	7.10 UL	7.10 X	ug/l	C
NHFLA-MW-1OB-DEC2020	TN0328-2	W	N	2,3,4,6-Tetrachlorophenol	10.0	7.60 UL	7.60 X	ug/l	C
NHFLA-MW-1OB-DEC2020	TN0328-2	W	N	2,4,5-Trichlorophenol	26.0	19.0 UL	19.0 X	ug/l	C
NHFLA-MW-1OB-DEC2020	TN0328-2	W	N	2,4,6-Trichlorophenol	10.0	7.60 UL	7.60 X	ug/l	C
NHFLA-MW-1OB-DEC2020	TN0328-2	W	N	2,4-Dichlorophenol	10.0	7.60 UL	7.60 X	ug/l	C
NHFLA-MW-1OB-DEC2020	TN0328-2	W	N	2,4-Dinitrophenol	26.0	19.0 UL	19.0 X	ug/l	C
NHFLA-MW-1OB-DEC2020	TN0328-2	W	N	2,4-Dinitrotoluene	10.0	7.60 UL	7.60 X	ug/l	C
NHFLA-MW-1OB-DEC2020	TN0328-2	W	N	2-Chlorophenol	10.0	7.60 UL	7.60 X	ug/l	C
NHFLA-MW-1OB-DEC2020	TN0328-2	W	N	2-Nitrophenol	10.0	7.60 UL	7.60 X	ug/l	C
NHFLA-MW-1OB-DEC2020	TN0328-2	W	N	4,6-Dinitro-2-methylphenol	26.0	19.0 UL	19.0 X	ug/l	C

Automated Data Review Detail Report for TN0328
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Rejected Results

Test Method: SW8270	Extraction Method: SW3510	Leach Method: NONE							
FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-MW-1OB-DEC2020	TN0328-2	W	N	4-Nitrophenol	26.0	19.0 UL	19.0 X	ug/l	C
NHFLA-MW-1OB-DEC2020	TN0328-2	W	N	Cresols, m- & p-	10.0	7.60 UL	7.60 X	ug/l	C
NHFLA-MW-1OB-DEC2020	TN0328-2	W	N	Hexachlorocyclopentadiene	10.0	7.60 UL	7.60 X	ug/l	C
NHFLA-MW-1OB-DEC2020	TN0328-2	W	N	Pentachlorophenol	26.0	19.0 UL	19.0 X	ug/l	C
NHFLA-MW-1OB-DEC2020	TN0328-2	W	N	Phenol	10.0	7.60 UL	7.60 X	ug/l	C
NHFLA-MW4BR-DEC2020	TN0328-6	W	N	2,3,4,6-Tetrachlorophenol	10.0	7.80 UL	7.80 X	ug/l	C
NHFLA-MW4BR-DEC2020	TN0328-6	W	N	2,4,5-Trichlorophenol	26.0	20.0 UL	20.0 X	ug/l	C
NHFLA-MW4BR-DEC2020	TN0328-6	W	N	2,4,6-Trichlorophenol	10.0	7.80 UL	7.80 X	ug/l	C
NHFLA-MW4BR-DEC2020	TN0328-6	W	N	2,4-Dichlorophenol	10.0	7.80 UL	7.80 X	ug/l	C
NHFLA-MW4BR-DEC2020	TN0328-6	W	N	2,4-Dinitrophenol	26.0	20.0 UL	20.0 X	ug/l	C
NHFLA-MW4BR-DEC2020	TN0328-6	W	N	2,4-Dinitrotoluene	10.0	7.80 UL	7.80 X	ug/l	C
NHFLA-MW4BR-DEC2020	TN0328-6	W	N	2-Chlorophenol	10.0	7.80 UL	7.80 X	ug/l	C
NHFLA-MW4BR-DEC2020	TN0328-6	W	N	2-Nitrophenol	10.0	7.80 UL	7.80 X	ug/l	C
NHFLA-MW4BR-DEC2020	TN0328-6	W	N	4,6-Dinitro-2-methylphenol	26.0	20.0 UL	20.0 X	ug/l	C
NHFLA-MW4BR-DEC2020	TN0328-6	W	N	4-Nitrophenol	26.0	20.0 UL	20.0 X	ug/l	C
NHFLA-MW4BR-DEC2020	TN0328-6	W	N	Cresols, m- & p-	10.0	7.80 UL	7.80 X	ug/l	C
NHFLA-MW4BR-DEC2020	TN0328-6	W	N	Hexachlorocyclopentadiene	10.0	7.80 UL	7.80 X	ug/l	C
NHFLA-MW4BR-DEC2020	TN0328-6	W	N	Pentachlorophenol	26.0	20.0 UL	20.0 X	ug/l	C
NHFLA-MW4BR-DEC2020	TN0328-6	W	N	Phenol	10.0	7.80 UL	7.80 X	ug/l	C
NHFLA-MW4OB-DEC2020	TN0328-5	W	N	2,3,4,6-Tetrachlorophenol	10.0	7.80 UL	7.80 X	ug/l	C
NHFLA-MW4OB-DEC2020	TN0328-5	W	N	2,4,5-Trichlorophenol	26.0	20.0 UL	20.0 X	ug/l	C
NHFLA-MW4OB-DEC2020	TN0328-5	W	N	2,4,6-Trichlorophenol	10.0	7.80 UL	7.80 X	ug/l	C
NHFLA-MW4OB-DEC2020	TN0328-5	W	N	2,4-Dichlorophenol	10.0	7.80 UL	7.80 X	ug/l	C
NHFLA-MW4OB-DEC2020	TN0328-5	W	N	2,4-Dinitrophenol	26.0	20.0 UL	20.0 X	ug/l	C
NHFLA-MW4OB-DEC2020	TN0328-5	W	N	2,4-Dinitrotoluene	10.0	7.80 UL	7.80 X	ug/l	C
NHFLA-MW4OB-DEC2020	TN0328-5	W	N	2-Chlorophenol	10.0	7.80 UL	7.80 X	ug/l	C
NHFLA-MW4OB-DEC2020	TN0328-5	W	N	2-Nitrophenol	10.0	7.80 UL	7.80 X	ug/l	C
NHFLA-MW4OB-DEC2020	TN0328-5	W	N	4,6-Dinitro-2-methylphenol	26.0	20.0 UL	20.0 X	ug/l	C

Automated Data Review Detail Report for TN0328
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Rejected Results

Test Method: SW8270	Extraction Method: SW3510	Leach Method: NONE							
FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-MW4OB-DEC2020	TN0328-5	W	N	4-Nitrophenol	26.0	20.0 UL	20.0 X	ug/l	C
NHFLA-MW4OB-DEC2020	TN0328-5	W	N	Cresols, m- & p-	10.0	7.80 UL	7.80 X	ug/l	C
NHFLA-MW4OB-DEC2020	TN0328-5	W	N	Hexachlorocyclopentadiene	10.0	7.80 UL	7.80 X	ug/l	C
NHFLA-MW4OB-DEC2020	TN0328-5	W	N	Pentachlorophenol	26.0	20.0 UL	20.0 X	ug/l	C
NHFLA-MW4OB-DEC2020	TN0328-5	W	N	Phenol	10.0	7.80 UL	7.80 X	ug/l	C
NHFLA-MW-5OB-DEC2020	TN0328-1	W	N	2,3,4,6-Tetrachlorophenol	9.40	7.10 UL	7.10 X	ug/l	C
NHFLA-MW-5OB-DEC2020	TN0328-1	W	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-MW-5OB-DEC2020	TN0328-1	W	N	2,4,6-Trichlorophenol	9.40	7.10 UL	7.10 X	ug/l	C
NHFLA-MW-5OB-DEC2020	TN0328-1	W	N	2,4-Dichlorophenol	9.40	7.10 UL	7.10 X	ug/l	C
NHFLA-MW-5OB-DEC2020	TN0328-1	W	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-MW-5OB-DEC2020	TN0328-1	W	N	2,4-Dinitrotoluene	9.40	7.10 UL	7.10 X	ug/l	C
NHFLA-MW-5OB-DEC2020	TN0328-1	W	N	2-Chlorophenol	9.40	7.10 UL	7.10 X	ug/l	C
NHFLA-MW-5OB-DEC2020	TN0328-1	W	N	2-Nitrophenol	9.40	7.10 UL	7.10 X	ug/l	C
NHFLA-MW-5OB-DEC2020	TN0328-1	W	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-MW-5OB-DEC2020	TN0328-1	W	N	4-Nitrophenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-MW-5OB-DEC2020	TN0328-1	W	N	Cresols, m- & p-	9.40	7.10 UL	7.10 X	ug/l	C
NHFLA-MW-5OB-DEC2020	TN0328-1	W	N	Hexachlorocyclopentadiene	9.40	7.10 UL	7.10 X	ug/l	C
NHFLA-MW-5OB-DEC2020	TN0328-1	W	N	Pentachlorophenol	24.0	18.0 UL	18.0 X	ug/l	C
NHFLA-MW-5OB-DEC2020	TN0328-1	W	N	Phenol	9.40	7.10 UL	7.10 X	ug/l	C

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
A2340B/METHOD/NONE	7	7
BNASIM/SW3510/NONE	2	12
SW6020/SW3010/NONE	2	4
SW8270/SW3510/NONE	3	15

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
A2340B/METHOD/NONE	NHFLA-EB24-DEC2020	EB	5	Hardness (as CaCO3)	110 J	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW14-DEC2020	N	5	Hardness (as CaCO3)	271000	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW-1BR-DEC2020	N	5	Hardness (as CaCO3)	702000	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW-1OB-DEC2020	N	5	Hardness (as CaCO3)	515000	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW4BR-DEC2020	N	5	Hardness (as CaCO3)	331000	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW4OB-DEC2020	N	5	Hardness (as CaCO3)	166000	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW-5OB-DEC2020	N	5	Hardness (as CaCO3)	440000	85.0	530	650	5	ug/L

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
BNASIM/SW3510/NONE	NHFLA-MW4BR-DEC2020	N	1	Benzo(a)anthracene	0.0870 J	0.0480	0.100	0.210	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-MW4BR-DEC2020	N	1	Benzo(a)pyrene	0.0820 J	0.0690	0.100	0.210	0.2	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
BNASIM/SW3510/NONE	NHFLA-MW4BR-DEC2020	N	1	Benzo(b)fluoranthene	0.100 U	0.0930	0.100	0.210	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-MW4BR-DEC2020	N	1	Dibenz(a,h)anthracene	0.100 U	0.0730	0.100	0.210	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-MW4BR-DEC2020	N	1	Indeno(1,2,3-c,d)pyrene	0.100 U	0.0540	0.100	0.210	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-MW4BR-DEC2020	N	1	Naphthalene	0.100 U	0.0670	0.100	0.210	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-MW4OB-DEC2020	N	1	Benzo(a)anthracene	0.100 U	0.0480	0.100	0.210	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-MW4OB-DEC2020	N	1	Benzo(a)pyrene	0.100 U	0.0690	0.100	0.210	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-MW4OB-DEC2020	N	1	Benzo(b)fluoranthene	0.100 U	0.0930	0.100	0.210	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-MW4OB-DEC2020	N	1	Dibenz(a,h)anthracene	0.100 U	0.0730	0.100	0.210	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-MW4OB-DEC2020	N	1	Indeno(1,2,3-c,d)pyrene	0.100 U	0.0540	0.100	0.210	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-MW4OB-DEC2020	N	1	Naphthalene	0.100 U	0.0670	0.100	0.210	0.2	ug/L

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW6020/SW3010/NONE	NHFLA-MW4BR-DEC2020	N	50	Beryllium	2.00 U	0.340	2.00	10.0	1	ug/L
SW6020/SW3010/NONE	NHFLA-MW4BR-DEC2020	N	50	Sodium	1250000	185	4000	10000	5000	ug/L
SW6020/SW3010/NONE	NHFLA-MW4OB-DEC2020	N	50	Beryllium	2.00 U	0.340	2.00	10.0	1	ug/L
SW6020/SW3010/NONE	NHFLA-MW4OB-DEC2020	N	50	Sodium	1230000	185	4000	10000	5000	ug/L

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3510/NONE	NHFLA-MW-1OB-DEC2020	N	1	2,4-Dinitrophenol	19.0 X	1.00	19.0	26.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-MW-1OB-DEC2020	N	1	2-Nitroaniline	19.0 U	1.80	19.0	26.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-MW-1OB-DEC2020	N	1	4,6-Dinitro-2-methylphenol	19.0 X	2.00	19.0	26.0	25	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3510/NONE	NHFLA-MW-1OB-DEC2020	N	1	4-Nitroaniline	19.0 U	1.60	19.0	26.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-MW-1OB-DEC2020	N	1	Pentachlorophenol	19.0 X	2.30	19.0	26.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-DEC2020	N	1	2,4-Dinitrophenol	20.0 X	1.00	20.0	26.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-DEC2020	N	1	2-Nitroaniline	20.0 U	1.90	20.0	26.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-DEC2020	N	1	4,6-Dinitro-2-methylphenol	20.0 X	2.10	20.0	26.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-DEC2020	N	1	4-Nitroaniline	20.0 U	1.70	20.0	26.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-MW4BR-DEC2020	N	1	Pentachlorophenol	20.0 X	2.40	20.0	26.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-MW4OB-DEC2020	N	1	2,4-Dinitrophenol	20.0 X	1.00	20.0	26.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-MW4OB-DEC2020	N	1	2-Nitroaniline	20.0 U	1.90	20.0	26.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-MW4OB-DEC2020	N	1	4,6-Dinitro-2-methylphenol	20.0 X	2.10	20.0	26.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-MW4OB-DEC2020	N	1	4-Nitroaniline	20.0 U	1.70	20.0	26.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-MW4OB-DEC2020	N	1	Pentachlorophenol	20.0 X	2.40	20.0	26.0	25	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
C	LCS Recovery
H1	Test Hold Time
I	Surrogate recovery outside project limits.
L	Lab Blank
M	MS Recovery
M2	Post Spike
T	Trip Blank
TR	Trace Level Detect
V	Equipment Blank

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: A2340B (Hardness by Calculation)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?			•	
Were target analytes in the method blank less than MDL?			•	
Were target analytes in the field blank less than MDL?		•		Equipment blank detection below LOD did not result in qualification for field sample data.
Was an LCS/LCSD pair prepared and analyzed with each batch?			•	
Were LCS/LCSD recoveries within project acceptance limits?			•	
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: BNASIM (GC/MS-SIM Analysis by SW8270)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?		•		Equipment blank had a detection below the LOD for CHRYSENE. Field samples -001, -002, -004, -006 results for this analyte were qualified non-detect at the LOD or LOQ with U/V flag/ reason codes.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		ICV, ICAL, CCV outliers as noted in SDG case narrative were not addressed as part of this stage 2A review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW6020 (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		Prep blank PBWNL22IMW4 had detections below the LOD for aluminum, copper, magnesium, potassium, sodium, chromium. Field samples were qualified non-detect at the LOD with U/L flags/reason codes for the following results: aluminum and chromium - -01, -02, -03, -04, -09, -10, -11, -12, -13, -14, copper - -01, -03, -04, -05, -09, -10, -11, -12, copper, magnesium, potassium, sodium - sample -007. Non-detect at LOQ - copper - -002, aluminum - -005, -006.
Were target analytes in the field blank less than MDL?		•		Equipment blanks had detections below the LOD for the following metals: Total and dissolved equipment blanks: aluminum, barium, copper, magnesium, potassium, sodium. Dissolved equipment blank only - calcium, chromium. The following field results were qualified as non-detect at the LOD or LOQ with U/V flags/reason codes: aluminum and copper - same as prep blank, chromium - samples -009, -010, - 011, -012, -013, -014.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?	•			
Were the post spike recoveries within project acceptance limits?	•			
Were the serial dilution RPD values within project acceptance limits?	•			
Was the laboratory duplicate RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW7196 (Chromium, Hexavalent (Colorimetric))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?		•		Samples -001 and -004 were analyzed outside of project required holding time by a matter of minutes (2 and 14 respectively). Associated results were qualified with UJ flags and considered estimated.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG292118 had detection below LOD. All field results considered non-detect at LOD and qualified with U/L flags/reason codes.
Were target analytes in the field blank less than MDL?		•		Equipment blank had detection below LOD. All field results considered non-detect at the LOD or LOQ and qualified with U/V flags/reason codes.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			MS only
Were MS/MSD recoveries within project acceptance limits?		•		MS sample -007 recovery (85.7%) was within lab control limits (85-115%) but outside of project criteria (90-111%) so sample -007 result was qualified estimated with J/L/M flags/ reason codes.
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW7470 (Mercury in Liquid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?		•		Equipment blanks had detections below the LOD for both total and dissolved mercury. Following field results were qualified as non-detect at the LOQ with U/V flags/reason codes: Total mercury - -001, -002, -003, -004, -005, dissolved mercury - all field results. Sample -006 total mercury results were considered estimated and flagged J/V/+.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?	•			
Were the post spike recoveries within project acceptance limits?		•		Sample -001 total mercury PDS was an outlier biased high. Field result is considered estimated and qualified with M2 reason code (result also qualified non-detect due to equipment blank detection).
Were the serial dilution RPD values within project acceptance limits?	•			
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW8260 (Volatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Sample -004 surrogates were biased high for 1 of 4 recoveries. Field sample -004 results for methylcyclohexane (only detection) were qualified estimated with J/I/TR/+ flags/reason codes.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG292782-2 had detection below LOD for methylene chloride according to laboratory SDG case narrative. The batch QC data was not included in the SDG because this blank was only associated with sample -04RA which was not used for final reportable results.
Were target analytes in the field blank less than MDL?		•		Equipment blank had detections below the LOD for acetone and toluene and trip blank had detection below LOD for methylene chloride. Client sample -006 acetone results were qualified estimated with J/V/+ flags/reason codes.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			Spike samples were not from this SDG so recovery data was not available.
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		ICV outliers as noted in SDG case narrative were not addressed as part of this stage 2A review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW8270 (Semivolatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?		•		All sample re-extraction analyses were outside of project criteria holding times. All associated results should be considered estimated. Re-analysis data for these samples was not available in the database so qualifications were not applied based on these hold time outliers.
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Acid fraction surrogates were biased low outside of rejection criteria for samples -007 and re-extractions for samples -002, -003, -005, -006, -007 so all acid fraction results for sample -007 (re-extractions not reported as final results) were qualified as unusable with X/I flags/reason codes. NOTE: QC batch WG292335 method blank and LCS also had at least 2 acid fraction surrogate outliers biased low below rejection criteria.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch WG292335 and WG292924 LCS recoveries were biased low or non-detect for ALL acid fraction analytes except 2-methylphenol and 4chloro3methylphenol as well as base-neutral fraction analytes hexachlorocyclopentadiene and 2,4-dinitro toluene in QC batch WG292335 only. All field sample results for these analytes were qualified with either X/C or UJ/C flags/reason codes. QCbatch WG292924 LCS also had high bias recovery outliers for benzaldehyde did not require qualification of client sample non-detect results.
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			Samples spiked were not from this SDG so recovery data was not available
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		ICAL, ICV and CCV outliers as noted in SDG case narrative were not addressed as part of this stage 2A review.
Were DoD QSM corrective actions followed if deviations were noted?		•		

Review Questions

Method: SW8270 (Semivolatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Were any data recommended for rejection (exclusion) in the data validation process?	•			All ACID FRACTION analyte results for samples -007 based on surrogate recovery outliers. Multiple acid fraction analyte results for all samples based on LCS recovery outliers.

Data Validation Report for TN0335
REVISED REPORT #1 - April 1, 2021
REVISION SUMMARY: Checklist narration updated for LOQ inclusion in total metals field blank comment.

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - December Groundwater Sampling
SDG:	TN0335
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Katahdin Analytical Services, Scarborough, ME
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	March 29, 2021 - revised report April 1, 2021

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	A2340B	BNASIM	SW6020	SW6020 - Dissolved	SW7196	SW7470	SW7470 - Dissolved	SW8260	SW8270
NHFLA-DUP14-DEC2020	TN0335-17	Water	Field Duplicate/FD				X			X		
NHFLA-DUP14-DEC2020	TN0335-7	Water	Field Duplicate/FD	X	X	X		X	X		X	X
NHFLA-DUP15-DEC2020	TN0335-18	Water	Field Duplicate/FD				X			X		
NHFLA-DUP15-DEC2020	TN0335-8	Water	Field Duplicate/FD	X	X	X		X	X		X	X
NHFLA-EB25-DEC2020	TN0335-19	Water	Equipment Blank/EB				X			X		
NHFLA-EB25-DEC2020	TN0335-9	Water	Equipment Blank/EB	X	X	X		X	X		X	X
NHFLA-MW15-DEC2020	TN0335-16	Water	Field Sample/N				X			X		
NHFLA-MW15-DEC2020	TN0335-6	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW7BR-DEC2020	TN0335-12	Water	Field Sample/N				X			X		
NHFLA-MW7BR-DEC2020	TN0335-2	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW7OB-DEC2020	TN0335-1	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW7OB-DEC2020	TN0335-11	Water	Field Sample/N				X			X		
NHFLA-MW8-DEC2020	TN0335-15	Water	Field Sample/N				X			X		
NHFLA-MW8-DEC2020	TN0335-5	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW9BR-DEC2020	TN0335-14	Water	Field Sample/N				X			X		
NHFLA-MW9BR-DEC2020	TN0335-4	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW9OB-DEC2020	TN0335-13	Water	Field Sample/N				X			X		
NHFLA-MW9OB-DEC2020	TN0335-3	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-TB35-DEC2020	TN0335-10	Water	Trip Blank/TB								X	

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Katahdin Analytical Services, Scarborough, ME and were reported under sample delivery group (SDG) TN0335. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Extracted Internal Standard
- Field Duplicate RPD
- Lab Blank
- Lab Replicate RPD
- LCS Recovery
- LCS RPD
- MS Recovery
- MS RPD
- Prep Hold Time
- Surrogate
- Test Hold Time
- Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 282 results (18.15%) out of the 1554 results (sample and field QC samples) reported are qualified based on review and 135 results (8.69%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Analytical Method	Data Reviewer Comment
A2340B	No additional comments; see Checklist for detail.
BNASIM	No additional comments; see Checklist for detail.
SW6020	No additional comments; see Checklist for detail.
SW7196	No additional comments; see Checklist for detail.
SW7470	No additional comments; see Checklist for detail.
SW8260	No additional comments; see Checklist for detail.
SW8270	No additional comments; see Checklist for detail.

Jim Tomalia — April 1, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method BNASIM, Prep Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of extraction found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-DUP15-DEC2020 (FD)/ TN0335-8		41.16	< 40	< 80	days	J/UJ	H2	Prep to Test Exceeds UWL
NHFLA-EB25-DEC2020 (EB)/ TN0335-9		41.19	< 40	< 80	days	J/UJ	H2	Prep to Test Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Prep Hold Time for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP15-DEC2020	FD	2-Methylnaphthalene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Acenaphthene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Acenaphthylene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Anthracene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Benzo(a)anthracene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Benzo(a)pyrene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Benzo(b)fluoranthene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Benzo(g,h,i)perylene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Benzo(k)fluoranthene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Chrysene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Dibenz(a,h)anthracene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Fluoranthene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Fluorene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Indeno(1,2,3-c,d)pyrene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Naphthalene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Phenanthrene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Pyrene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	2-Methylnaphthalene	0.260	0.130 U	0.130 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	Acenaphthene	0.260	0.130 U	0.130 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	Acenaphthylene	0.260	0.130 U	0.130 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	Anthracene	0.260	0.130 U	0.130 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	Benzo(a)anthracene	0.260	0.130 U	0.130 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	Benzo(a)pyrene	0.260	0.130 U	0.130 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	Benzo(b)fluoranthene	0.260	0.130 U	0.130 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	Benzo(g,h,i)perylene	0.260	0.130 U	0.130 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	Benzo(k)fluoranthene	0.260	0.130 U	0.130 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	Chrysene	0.260	0.130 U	0.130 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	Dibenz(a,h)anthracene	0.260	0.130 U	0.130 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	Fluoranthene	0.260	0.130 U	0.130 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	Fluorene	0.260	0.130 U	0.130 UJ		ug/l	H2

Qualified Results associated with the Prep Hold Time for BNASIM

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB25-DEC2020	EB	Indeno(1,2,3-c,d)pyrene	0.260	0.130 U	0.130 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	Naphthalene	0.260	0.130 U	0.130 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	Phenanthrene	0.260	0.130 U	0.130 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	Pyrene	0.260	0.130 U	0.130 UJ		ug/l	H2

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Dissolved, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB25-DEC2020 (EB)/ TN0335-19	Barium	0.3800	< 0.27	< 2	ug/l	U/None	V	
NHFLA-EB25-DEC2020 (EB)/ TN0335-19	Copper	0.4000	< 0.19	< 3	ug/l	U/None	V	
NHFLA-EB25-DEC2020 (EB)/ TN0335-19	Manganese	0.4200	< 0.35	< 2	ug/l	U/None	V	
NHFLA-EB25-DEC2020 (EB)/ TN0335-19	Magnesium	20.00	< 8	< 100	ug/l	U/None	V	
NHFLA-EB25-DEC2020 (EB)/ TN0335-19	Calcium	23.00	< 21	< 100	ug/l	U/None	V	
NHFLA-EB25-DEC2020 (EB)/ TN0335-19	Sodium	275.0	< 19	< 1000	ug/l	U/None	V	
NHFLA-EB25-DEC2020 (EB)/ TN0335-19	Potassium	51.00	< 31	< 1000	ug/l	U/None	V	
NHFLA-EB25-DEC2020 (EB)/ TN0335-19	Aluminum	7.700	< 4.4	< 100	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW6020, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP14-DEC2020	FD	Aluminum	100	36.0 J	40.0 U		ug/l	V
NHFLA-DUP14-DEC2020	FD	Copper	3.00	0.940 J	2.00 U		ug/l	V
NHFLA-DUP15-DEC2020	FD	Aluminum	100	18.0 J	40.0 U		ug/l	V
NHFLA-DUP15-DEC2020	FD	Copper	3.00	1.20 J	2.00 U		ug/l	V
NHFLA-MW15-DEC2020	N	Aluminum	100	13.0 J	40.0 U		ug/l	V
NHFLA-MW15-DEC2020	N	Copper	3.00	1.00 J	2.00 U		ug/l	V
NHFLA-MW7BR-DEC2020	N	Copper	3.00	1.00 J	2.00 U		ug/l	V
NHFLA-MW7OB-DEC2020	N	Aluminum	100	34.0 J	40.0 U		ug/l	V/L
NHFLA-MW7OB-DEC2020	N	Copper	3.00	0.580 J	2.00 U		ug/l	V
NHFLA-MW8-DEC2020	N	Aluminum	100	84.4 J	100 U		ug/l	V
NHFLA-MW8-DEC2020	N	Copper	3.00	1.10 J	2.00 U		ug/l	V
NHFLA-MW9BR-DEC2020	N	Aluminum	100	27.0 J	40.0 U		ug/l	V
NHFLA-MW9BR-DEC2020	N	Copper	3.00	1.60 J	2.00 U		ug/l	V
NHFLA-MW9OB-DEC2020	N	Aluminum	100	18.0 J	40.0 U		ug/l	V
NHFLA-MW9OB-DEC2020	N	Copper	3.00	1.10 J	2.00 U		ug/l	V

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Dissolved, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW9OB-DEC2020 (SD)/ TN0335-013P	Calcium	-58.33	87 - 118	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-MW9OB-DEC2020 (SD)/ TN0335-013P	Sodium	8.000	85 - 117	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-MW9OB-DEC2020 (MS)/ TN0335-013S	Calcium	-150.0	87 - 118	30 - 125	percent	J/X	M	Spike amount Insignificant
NHFLA-MW9OB-DEC2020 (MS)/ TN0335-013S	Sodium	72.00	85 - 117	30 - 125	percent	J/UJ	M	Spike amount Insignificant
NHFLA-MW9OB-DEC2020 (MS)/ TN0335-013S	Iron	86.32	87 - 118	30 - 125	percent	J/UJ	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for SW6020, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP15-DEC2020	FD	Iron	100	907	907 J	-	ug/l	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB25-DEC2020 (EB)/ TN0335-9	Cobalt	0.06000	< 0.06	< 1	ug/l	U/None	V	
NHFLA-EB25-DEC2020 (EB)/ TN0335-9	Manganese	0.3900	< 0.35	< 2	ug/l	U/None	V	
NHFLA-EB25-DEC2020 (EB)/ TN0335-9	Copper	0.4200	< 0.19	< 3	ug/l	U/None	V	
NHFLA-EB25-DEC2020 (EB)/ TN0335-9	Aluminum	11.00	< 4.4	< 100	ug/l	U/None	V	
NHFLA-EB25-DEC2020 (EB)/ TN0335-9	Magnesium	18.00	< 8	< 100	ug/l	U/None	V	
NHFLA-EB25-DEC2020 (EB)/ TN0335-9	Sodium	248.0	< 19	< 1000	ug/l	U/None	V	
NHFLA-EB25-DEC2020 (EB)/ TN0335-9	Calcium	26.00	< 21	< 100	ug/l	U/None	V	
NHFLA-EB25-DEC2020 (EB)/ TN0335-9	Potassium	61.00	< 31	< 1000	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP14-DEC2020	FD	Aluminum	100	36.0 J	40.0 U		ug/l	V
NHFLA-DUP14-DEC2020	FD	Cobalt	1.00	0.100 J	0.300 U		ug/l	V/L
NHFLA-DUP14-DEC2020	FD	Copper	3.00	0.940 J	2.00 U		ug/l	V
NHFLA-DUP15-DEC2020	FD	Aluminum	100	18.0 J	40.0 U		ug/l	V
NHFLA-DUP15-DEC2020	FD	Copper	3.00	1.20 J	2.00 U		ug/l	V
NHFLA-MW15-DEC2020	N	Aluminum	100	13.0 J	40.0 U		ug/l	V
NHFLA-MW15-DEC2020	N	Cobalt	1.00	0.460 J	1.00 U		ug/l	V/L
NHFLA-MW15-DEC2020	N	Copper	3.00	1.00 J	2.00 U		ug/l	V
NHFLA-MW7BR-DEC2020	N	Cobalt	1.00	0.140 J	0.300 U		ug/l	V/L
NHFLA-MW7BR-DEC2020	N	Copper	3.00	1.00 J	2.00 U		ug/l	V
NHFLA-MW7OB-DEC2020	N	Aluminum	100	34.0 J	40.0 U		ug/l	V/L
NHFLA-MW7OB-DEC2020	N	Cobalt	1.00	0.170 J	0.300 U		ug/l	V/L
NHFLA-MW7OB-DEC2020	N	Copper	3.00	0.580 J	2.00 U		ug/l	V
NHFLA-MW8-DEC2020	N	Aluminum	100	84.4 J	100 U		ug/l	V
NHFLA-MW8-DEC2020	N	Cobalt	1.00	0.603 J	1.00 U		ug/l	V/L
NHFLA-MW8-DEC2020	N	Copper	3.00	1.10 J	2.00 U		ug/l	V
NHFLA-MW9BR-DEC2020	N	Aluminum	100	27.0 J	40.0 U		ug/l	V
NHFLA-MW9BR-DEC2020	N	Cobalt	1.00	0.160 J	0.300 U		ug/l	V/L
NHFLA-MW9BR-DEC2020	N	Copper	3.00	1.60 J	2.00 U		ug/l	V
NHFLA-MW9OB-DEC2020	N	Aluminum	100	18.0 J	40.0 U		ug/l	V

Qualified Results associated with the Equipment Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW9OB-DEC2020	N	Copper	3.00	1.10 J	2.00 U		ug/l	V

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Field Duplicate RPD

Field duplicate analyses are performed in order to assess sample collection/laboratory precision for each sample matrix. Summary forms were evaluated and compared to electronic data deliverables. Field duplicate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW9OB-DEC2020 (N)/ TN0335-8	Zinc	14.00	< 10	< 10	ug/l	J/UJ	D3	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNL24IMW2 (LB)/ PBWNL24IMW2	Nickel	0.2100	< 0.15	< 2	ug/l	U/None	L	
PBWNL24IMW2 (LB)/ PBWNL24IMW2	Cobalt	0.2400	< 0.061	< 1	ug/l	U/None	L	
PBWNL24IMW2 (LB)/ PBWNL24IMW2	Chromium	0.2900	< 0.22	< 5	ug/l	U/None	L	
PBWNL24IMW2 (LB)/ PBWNL24IMW2	Copper	0.4200	< 0.18	< 3	ug/l	U/None	L	
PBWNL24IMW2 (LB)/ PBWNL24IMW2	Manganese	0.5000	< 0.35	< 2	ug/l	U/None	L	
PBWNL24IMW2 (LB)/ PBWNL24IMW2	Barium	1.000	< 0.27	< 2	ug/l	U/None	L	
PBWNL24IMW2 (LB)/ PBWNL24IMW2	Sodium	130.0	< 19	< 1000	ug/l	U/None	L	
PBWNL24IMW2 (LB)/ PBWNL24IMW2	Magnesium	18.00	< 7.8	< 100	ug/l	U/None	L	
PBWNL24IMW2 (LB)/ PBWNL24IMW2	Potassium	50.00	< 31	< 1000	ug/l	U/None	L	
PBWNL24IMW2 (LB)/ PBWNL24IMW2	Aluminum	8.800	< 4.4	< 100	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP14-DEC2020	FD	Chromium	5.00	0.570 J	4.00 U		ug/l	L
NHFLA-DUP14-DEC2020	FD	Cobalt	1.00	0.100 J	0.300 U		ug/l	V/L
NHFLA-DUP14-DEC2020	FD	Copper	3.00	1.10 J	2.00 U		ug/l	V/L
NHFLA-DUP14-DEC2020	FD	Nickel	2.00	0.630 J	1.20 U		ug/l	L
NHFLA-DUP15-DEC2020	FD	Aluminum	100	24.0 J	40.0 U		ug/l	V/L
NHFLA-DUP15-DEC2020	FD	Chromium	5.00	0.340 J	4.00 U		ug/l	L
NHFLA-DUP15-DEC2020	FD	Copper	3.00	1.20 J	2.00 U		ug/l	V/L
NHFLA-EB25-DEC2020	EB	Aluminum	100	11.0 J	40.0 U		ug/l	L
NHFLA-EB25-DEC2020	EB	Cobalt	1.00	0.0600 J	0.300 U		ug/l	L
NHFLA-EB25-DEC2020	EB	Copper	3.00	0.420 J	2.00 U		ug/l	L
NHFLA-EB25-DEC2020	EB	Magnesium	100	18.0 J	80.0 U		ug/l	L
NHFLA-EB25-DEC2020	EB	Manganese	2.00	0.390 J	1.00 U		ug/l	L
NHFLA-EB25-DEC2020	EB	Potassium	1000	61.0 J	400 U		ug/l	L
NHFLA-EB25-DEC2020	EB	Sodium	1000	248 J	400 U		ug/l	L
NHFLA-MW15-DEC2020	N	Chromium	5.00	0.530 J	4.00 U		ug/l	L
NHFLA-MW15-DEC2020	N	Cobalt	1.00	0.460 J	1.00 U		ug/l	V/L
NHFLA-MW15-DEC2020	N	Copper	3.00	1.20 J	2.00 U		ug/l	V/L

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW7BR-DEC2020	N	Chromium	5.00	0.550 J	4.00 U		ug/l	L
NHFLA-MW7BR-DEC2020	N	Cobalt	1.00	0.140 J	0.300 U		ug/l	V/L
NHFLA-MW7BR-DEC2020	N	Copper	3.00	0.980 J	2.00 U		ug/l	V/L
NHFLA-MW7BR-DEC2020	N	Nickel	2.00	0.940 J	1.20 U		ug/l	L
NHFLA-MW7OB-DEC2020	N	Aluminum	100	34.0 J	40.0 U		ug/l	V/L
NHFLA-MW7OB-DEC2020	N	Chromium	5.00	0.350 J	4.00 U		ug/l	L
NHFLA-MW7OB-DEC2020	N	Cobalt	1.00	0.170 J	0.300 U		ug/l	V/L
NHFLA-MW7OB-DEC2020	N	Copper	3.00	0.880 J	2.00 U		ug/l	V/L
NHFLA-MW7OB-DEC2020	N	Nickel	2.00	0.630 J	1.20 U		ug/l	L
NHFLA-MW8-DEC2020	N	Aluminum	100	94.9 J	100 U		ug/l	V/L
NHFLA-MW8-DEC2020	N	Chromium	5.00	0.700 J	4.00 U		ug/l	L
NHFLA-MW8-DEC2020	N	Cobalt	1.00	0.603 J	1.00 U		ug/l	V/L
NHFLA-MW8-DEC2020	N	Copper	3.00	0.400 J	2.00 U		ug/l	V/L
NHFLA-MW9BR-DEC2020	N	Chromium	5.00	0.590 J	4.00 U		ug/l	L
NHFLA-MW9BR-DEC2020	N	Cobalt	1.00	0.160 J	0.300 U		ug/l	V/L
NHFLA-MW9BR-DEC2020	N	Copper	3.00	0.830 J	2.00 U		ug/l	V/L
NHFLA-MW9BR-DEC2020	N	Nickel	2.00	0.790 J	1.20 U		ug/l	L
NHFLA-MW9OB-DEC2020	N	Aluminum	100	22.0 J	40.0 U		ug/l	V/L
NHFLA-MW9OB-DEC2020	N	Chromium	5.00	0.450 J	4.00 U		ug/l	L
NHFLA-MW9OB-DEC2020	N	Copper	3.00	1.10 J	2.00 U		ug/l	V/L
NHFLA-MW9OB-DEC2020	N	Nickel	2.00	1.88 J	2.00 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB25-DEC2020 (EB)/ TN0335-9	Toluene	0.3800	< 0.27	< 1	ug/l	U/None	V	
NHFLA-EB25-DEC2020 (EB)/ TN0335-9	Methylene chloride	1.400	< 1.1	< 5	ug/l	U/None	V	
NHFLA-EB25-DEC2020 (EB)/ TN0335-9	Acetone	11.00	< 2.2	< 5	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP15-DEC2020	FD	Acetone	5.00	5.30	5.30 J	+	ug/l	V

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Field Duplicate RPD

Field duplicate analyses are performed in order to assess sample collection/laboratory precision for each sample matrix. Summary forms were evaluated and compared to electronic data deliverables. Field duplicate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW9OB-DEC2020 (N)/ TN0335-8	Methylcyclohexane	2.500	< 1	< 1	ug/l	J/UJ	D3	
NHFLA-MW9OB-DEC2020 (N)/ TN0335-8	Acetone	5.300	< 5	< 5	ug/l	J/UJ	D3	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Field Duplicate RPD for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP15-DEC2020	FD	Methylcyclohexane	1.00	2.50	2.50 J		ug/l	D3
NHFLA-MW9OB-DEC2020	N	Methylcyclohexane	1.00	0.500 U	0.500 UJ		ug/l	D3

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG292782-2 (LB)/ WG292782-2	Methylene chloride	1.900	< 1.1	< 5	ug/l	U/None	L	
WG292785-10 (LB)/ WG292785-10	Methylene chloride	1.200	< 1.1	< 5	ug/l	U/None	L	
WG292846-2 (LB)/ WG292846-2	Methylene chloride	1.500	< 1.1	< 5	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB25-DEC2020	EB	Methylene chloride	5.00	1.40 J	2.50 UJ		ug/l	L/H1

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-DUP14-DEC2020 (FD)/ TN0335-7	1,2-Dichloroethane-d4	123.0	81 - 118	10 - 118	percent	J/None	I	
NHFLA-MW15-DEC2020 (N)/ TN0335-6	1,2-Dichloroethane-d4	121.0	81 - 118	10 - 118	percent	J/None	I	
NHFLA-MW7BR-DEC2020 (N)/ TN0335-2	1,2-Dichloroethane-d4	120.0	81 - 118	10 - 118	percent	J/None	I	
NHFLA-MW7OB-DEC2020 (N)/ TN0335-1	1,2-Dichloroethane-d4	120.0	81 - 118	10 - 118	percent	J/None	I	
NHFLA-MW8-DEC2020 (N)/ TN0335-5	1,2-Dichloroethane-d4	123.0	81 - 118	10 - 118	percent	J/None	I	
NHFLA-MW9OB-DEC2020 (N)/ TN0335-3	1,2-Dichloroethane-d4	126.0	81 - 118	10 - 118	percent	J/None	I	
NHFLA-TB35-DEC2020 (TB)/ TN0335-10	1,2-Dichloroethane-d4	120.0	81 - 118	10 - 118	percent	J/None	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-DUP14-DEC2020 (FD)/ TN0335-7		14.24	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL
NHFLA-DUP15-DEC2020 (FD)/ TN0335-8		14.18	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL
NHFLA-EB25-DEC2020 (EB)/ TN0335-9		14.85	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL
NHFLA-MW15-DEC2020 (N)/ TN0335-6		14.06	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL
NHFLA-MW7BR-DEC2020 (N)/ TN0335-2		14.08	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL
NHFLA-MW7OB-DEC2020 (N)/ TN0335-1		14.11	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL
NHFLA-MW8-DEC2020 (N)/ TN0335-5		14.05	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL
NHFLA-MW9BR-DEC2020 (N)/ TN0335-4		14.08	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL
NHFLA-MW9OB-DEC2020 (N)/ TN0335-3		14.12	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL
NHFLA-TB35-DEC2020 (TB)/ TN0335-10		14.48	< 14	< 28	days	J/UJ	H1	Test Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Test Hold Time for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB25-DEC2020	EB	1,1,1-Trichloroethane	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	1,1,2-Trichloro-1,2,2-trifluoroethane	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	1,1,2-Trichloroethane	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	1,1-Dichloroethane	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	1,1-Dichloroethene	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	1,2,3-Trichlorobenzene	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	1,2,4-Trichlorobenzene	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	1,2-Dibromo-3-chloropropane	1.00	0.750 U	0.750 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	1,2-Dibromoethane (EDB)	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	1,2-Dichlorobenzene	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	1,2-Dichloroethane	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	1,2-Dichloropropane	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	1,3-Dichlorobenzene	1.00	0.500 U	0.500 UJ		ug/l	H1

Qualified Results associated with the Test Hold Time for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB25-DEC2020	EB	1,4-Dichlorobenzene	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	2-Butanone (MEK)	5.00	2.50 U	2.50 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	2-Hexanone	5.00	2.50 U	2.50 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Acetone	5.00	11.0	11.0 J	-	ug/l	H1
NHFLA-EB25-DEC2020	EB	Benzene	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Bromochloromethane	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Bromodichloromethane	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Bromoform	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Bromomethane	2.00	1.00 U	1.00 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Carbon disulfide	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Carbon tetrachloride	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Chlorobenzene	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Chloroethane	2.00	1.00 U	1.00 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Chloroform	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Chloromethane	2.00	1.00 U	1.00 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Cyclohexane	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Dibromochloromethane	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Dichlorodifluoromethane	2.00	1.00 U	1.00 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Ethylbenzene	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Isopropylbenzene (Cumene)	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	m,p-Xylene	2.00	1.00 U	1.00 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Methyl acetate	1.00	0.750 U	0.750 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Methyl tert-butyl ether (MTBE)	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Methylcyclohexane	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Methylene chloride	5.00	1.40 J	2.50 UJ		ug/l	L/H1
NHFLA-EB25-DEC2020	EB	o-Xylene	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Styrene	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Toluene	1.00	0.380 J	0.380 J	-	ug/l	H1/TR
NHFLA-EB25-DEC2020	EB	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Trichloroethene (TCE)	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Trichlorofluoromethane	2.00	1.00 U	1.00 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Vinyl chloride	2.00	1.00 U	1.00 UJ		ug/l	H1

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG292337-2 (BS)/ WG292337-2	2,4-Dinitrophenol	0.000	12 - 143	10 - 143	percent	J/X	C	
WG292337-2 (BS)/ WG292337-2	Pentachlorophenol	0.000	35 - 138	10 - 138	percent	J/X	C	
WG292337-2 (BS)/ WG292337-2	4,6-Dinitro-2-methylphenol	0.000	44 - 137	10 - 137	percent	J/X	C	
WG292337-2 (BS)/ WG292337-2	2-Nitrophenol	0.000	47 - 123	10 - 123	percent	J/X	C	
WG292337-2 (BS)/ WG292337-2	2,4,6-Trichlorophenol	0.000	50 - 125	10 - 125	percent	J/X	C	
WG292337-2 (BS)/ WG292337-2	2,3,4,6-Tetrachlorophenol	0.000	50 - 128	10 - 128	percent	J/X	C	
WG292337-2 (BS)/ WG292337-2	2,4,5-Trichlorophenol	0.000	53 - 123	10 - 123	percent	J/X	C	
WG292337-2 (BS)/ WG292337-2	4-Nitrophenol	2.060	10 - 114	10 - 114	percent	J/X	C	
WG292337-2 (BS)/ WG292337-2	Cresols, m- & p-	20.70	29 - 110	10 - 110	percent	J/UJ	C	
WG292337-2 (BS)/ WG292337-2	4-Chloro-3-methylphenol	21.60	52 - 119	10 - 119	percent	J/UJ	C	
WG292337-2 (BS)/ WG292337-2	2-Methylphenol (o-Cresol)	29.70	30 - 117	10 - 117	percent	J/UJ	C	
WG292337-2 (BS)/ WG292337-2	2,4-Dichlorophenol	3.090	47 - 121	10 - 121	percent	J/X	C	
WG292337-2 (BS)/ WG292337-2	2-Chlorophenol	4.240	38 - 117	10 - 117	percent	J/X	C	
WG292337-2 (BS)/ WG292337-2	Phenol	4.280	10 - 78	10 - 78	percent	J/X	C	
WG292337-2 (BS)/ WG292337-2	Benzaldehyde	6540	10 - 189	10 - 189	percent	J/None	C	
WG292649-2 (BS)/ WG292649-2	4-Nitrophenol	0.000	10 - 114	10 - 114	percent	J/X	C	
WG292649-2 (BS)/ WG292649-2	2,4-Dinitrophenol	0.000	12 - 143	10 - 143	percent	J/X	C	
WG292649-2 (BS)/ WG292649-2	Pentachlorophenol	0.000	35 - 138	10 - 138	percent	J/X	C	
WG292649-2 (BS)/ WG292649-2	4,6-Dinitro-2-methylphenol	0.000	44 - 137	10 - 137	percent	J/X	C	
WG292649-2 (BS)/ WG292649-2	2,3,4,6-Tetrachlorophenol	0.000	50 - 128	10 - 128	percent	J/X	C	
WG292649-2 (BS)/ WG292649-2	2,4,6-Trichlorophenol	3.170	50 - 125	10 - 125	percent	J/X	C	
WG292649-2 (BS)/ WG292649-2	2,4,5-Trichlorophenol	4.940	53 - 123	10 - 123	percent	J/X	C	
WG292649-2 (BS)/ WG292649-2	4-Chloro-3-methylphenol	40.30	52 - 119	10 - 119	percent	J/UJ	C	
WG292649-2 (BS)/ WG292649-2	Phenol	7.010	10 - 78	10 - 78	percent	J/X	C	
WG292649-2 (BS)/ WG292649-2	2-Nitrophenol	7.030	47 - 123	10 - 123	percent	J/X	C	

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG292649-2 (BS)/ WG292649-2	2,4-Dichlorophenol	7.760	47 - 121	10 - 121	percent	J/X	C	
WG292649-2 (BS)/ WG292649-2	2-Chlorophenol	8.380	38 - 117	10 - 117	percent	J/X	C	
WG292699-2 (BS)/ WG292699-2	4-Nitrophenol	0.000	10 - 114	10 - 114	percent	J/X	C	
WG292699-2 (BS)/ WG292699-2	2,4-Dinitrophenol	0.000	12 - 143	10 - 143	percent	J/X	C	
WG292699-2 (BS)/ WG292699-2	4,6-Dinitro-2-methylphenol	0.000	44 - 137	10 - 137	percent	J/X	C	
WG292699-2 (BS)/ WG292699-2	Pentachlorophenol	2.450	35 - 138	10 - 138	percent	J/X	C	
WG292699-2 (BS)/ WG292699-2	2,3,4,6-Tetrachlorophenol	2.900	50 - 128	10 - 128	percent	J/X	C	
WG292699-2 (BS)/ WG292699-2	2,4,6-Trichlorophenol	3.660	50 - 125	10 - 125	percent	J/X	C	
WG292699-2 (BS)/ WG292699-2	4-Chloro-3-methylphenol	33.00	52 - 119	10 - 119	percent	J/UJ	C	
WG292699-2 (BS)/ WG292699-2	2,4,5-Trichlorophenol	4.630	53 - 123	10 - 123	percent	J/X	C	
WG292699-2 (BS)/ WG292699-2	2-Nitrophenol	5.680	47 - 123	10 - 123	percent	J/X	C	
WG292699-2 (BS)/ WG292699-2	Phenol	6.480	10 - 78	10 - 78	percent	J/X	C	
WG292699-2 (BS)/ WG292699-2	2,4-Dichlorophenol	7.560	47 - 121	10 - 121	percent	J/X	C	
WG292699-2 (BS)/ WG292699-2	2-Chlorophenol	8.140	38 - 117	10 - 117	percent	J/X	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP14-DEC2020	FD	2,3,4,6-Tetrachlorophenol	10.0	7.60 UL	7.60 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	2,4,5-Trichlorophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	2,4,6-Trichlorophenol	10.0	7.60 UL	7.60 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	2,4-Dichlorophenol	10.0	7.60 UL	7.60 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	2,4-Dinitrophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	2-Chlorophenol	10.0	7.60 UL	7.60 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	2-Methylphenol (o-Cresol)	10.0	7.60 U	7.60 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	2-Nitrophenol	10.0	7.60 UL	7.60 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	4,6-Dinitro-2-methylphenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	4-Chloro-3-methylphenol	10.0	7.60 UL	7.60 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	Cresols, m- & p-	10.0	7.60 U	7.60 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	Pentachlorophenol	26.0	19.0 UL	19.0 X		ug/l	C/I

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP14-DEC2020	FD	Phenol	10.0	7.60 UL	7.60 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	4-Nitrophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	2,3,4,6-Tetrachlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	2,4,6-Trichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	2,4-Dichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	2-Chlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	2-Methylphenol (o-Cresol)	9.40	7.10 U	7.10 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	2-Nitrophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	4-Chloro-3-methylphenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	Cresols, m- & p-	9.40	7.10 U	7.10 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	Phenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	2,3,4,6-Tetrachlorophenol	13.0	9.70 UL	9.70 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	2,4,5-Trichlorophenol	32.0	24.0 UL	24.0 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	2,4,6-Trichlorophenol	13.0	9.70 UL	9.70 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	2,4-Dichlorophenol	13.0	9.70 UL	9.70 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	2,4-Dinitrophenol	32.0	24.0 UL	24.0 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	2-Chlorophenol	13.0	9.70 UL	9.70 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	2-Methylphenol (o-Cresol)	13.0	9.70 U	9.70 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	2-Nitrophenol	13.0	9.70 UL	9.70 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	4,6-Dinitro-2-methylphenol	32.0	24.0 UL	24.0 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	4-Chloro-3-methylphenol	13.0	9.70 UL	9.70 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	Cresols, m- & p-	13.0	9.70 U	9.70 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	Pentachlorophenol	32.0	24.0 UL	24.0 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	Phenol	13.0	9.70 UL	9.70 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	4-Nitrophenol	32.0	24.0 UL	24.0 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	2,3,4,6-Tetrachlorophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	2,4,6-Trichlorophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	2,4-Dichlorophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	2-Chlorophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	2-Methylphenol (o-Cresol)	9.50	7.10 U	7.10 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	2-Nitrophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	4-Chloro-3-methylphenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	Cresols, m- & p-	9.50	7.10 U	7.10 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW15-DEC2020	N	Phenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	2,3,4,6-Tetrachlorophenol	10.0	7.50 UL	7.50 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	2,4,5-Trichlorophenol	25.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	2,4,6-Trichlorophenol	10.0	7.50 UL	7.50 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	2,4-Dichlorophenol	10.0	7.50 UL	7.50 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	2,4-Dinitrophenol	25.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	2-Chlorophenol	10.0	7.50 UL	7.50 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	2-Methylphenol (o-Cresol)	10.0	7.50 U	7.50 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	2-Nitrophenol	10.0	7.50 UL	7.50 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	4,6-Dinitro-2-methylphenol	25.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	4-Chloro-3-methylphenol	10.0	7.50 UL	7.50 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	Cresols, m- & p-	10.0	7.50 U	7.50 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	Pentachlorophenol	25.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	Phenol	10.0	7.50 UL	7.50 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	4-Nitrophenol	25.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	2,3,4,6-Tetrachlorophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	2,4,6-Trichlorophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	2,4-Dichlorophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	2-Chlorophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	2-Methylphenol (o-Cresol)	9.50	7.10 U	7.10 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	2-Nitrophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	4-Chloro-3-methylphenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	Cresols, m- & p-	9.50	7.10 U	7.10 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	Phenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	2,3,4,6-Tetrachlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	2,4,6-Trichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	2,4-Dichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	2-Chlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	2-Methylphenol (o-Cresol)	9.40	7.10 U	7.10 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	2-Nitrophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	4-Chloro-3-methylphenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	Cresols, m- & p-	9.40	7.10 U	7.10 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I

Qualified Results associated with the LCS Recovery for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW8-DEC2020	N	Phenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	2,3,4,6-Tetrachlorophenol	10.0	7.90 UL	7.90 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	2,4,5-Trichlorophenol	26.0	20.0 UL	20.0 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	2,4,6-Trichlorophenol	10.0	7.90 UL	7.90 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	2,4-Dichlorophenol	10.0	7.90 UL	7.90 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	2,4-Dinitrophenol	26.0	20.0 UL	20.0 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	2-Chlorophenol	10.0	7.90 UL	7.90 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	2-Methylphenol (o-Cresol)	10.0	7.90 U	7.90 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	2-Nitrophenol	10.0	7.90 UL	7.90 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	4,6-Dinitro-2-methylphenol	26.0	20.0 UL	20.0 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	4-Chloro-3-methylphenol	10.0	7.90 UL	7.90 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	Cresols, m- & p-	10.0	7.90 U	7.90 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	Pentachlorophenol	26.0	20.0 UL	20.0 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	Phenol	10.0	7.90 UL	7.90 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	4-Nitrophenol	26.0	20.0 UL	20.0 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	2,3,4,6-Tetrachlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	2,4,6-Trichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	2,4-Dichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	2-Chlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	2-Methylphenol (o-Cresol)	9.40	7.10 U	7.10 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	2-Nitrophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	4-Chloro-3-methylphenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	Cresols, m- & p-	9.40	7.10 U	7.10 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	Phenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8270, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-DUP14-DEC2020 (FD)/ TN0335-7	Phenol-d6	0.000	10 - 90	10 - 90	percent	J/X	I	
NHFLA-DUP14-DEC2020 (FD)/ TN0335-7	2-Fluorophenol	0.000	19 - 119	10 - 119	percent	J/X	I	
NHFLA-DUP14-DEC2020 (FD)/ TN0335-7	2,4,6-Tribromophenol	0.000	43 - 140	10 - 140	percent	J/X	I	
NHFLA-DUP15-DEC2020 (FD)/ TN0335-8	2-Fluorophenol	0.000	19 - 119	10 - 119	percent	J/X	I	
NHFLA-DUP15-DEC2020 (FD)/ TN0335-8	2,4,6-Tribromophenol	0.000	43 - 140	10 - 140	percent	J/X	I	
NHFLA-DUP15-DEC2020 (FD)/ TN0335-8	Phenol-d6	2.280	10 - 90	10 - 90	percent	J/X	I	
NHFLA-EB25-DEC2020 (EB)/ TN0335-9	2-Fluorophenol	3.380	19 - 119	10 - 119	percent	J/X	I	
NHFLA-EB25-DEC2020 (EB)/ TN0335-9	2,4,6-Tribromophenol	4.400	43 - 140	10 - 140	percent	J/X	I	
NHFLA-EB25-DEC2020 (EB)/ TN0335-9	Phenol-d6	7.550	10 - 90	10 - 90	percent	J/X	I	
NHFLA-MW15-DEC2020 (N)/ TN0335-6	2-Fluorophenol	0.000	19 - 119	10 - 119	percent	J/X	I	
NHFLA-MW15-DEC2020 (N)/ TN0335-6	2,4,6-Tribromophenol	0.000	43 - 140	10 - 140	percent	J/X	I	
NHFLA-MW15-DEC2020 (N)/ TN0335-6	Phenol-d6	1.180	10 - 90	10 - 90	percent	J/X	I	
NHFLA-MW7BR-DEC2020 (N)/ TN0335-2	2-Fluorophenol	1.610	19 - 119	10 - 119	percent	J/X	I	
NHFLA-MW7BR-DEC2020 (N)/ TN0335-2	2,4,6-Tribromophenol	2.470	43 - 140	10 - 140	percent	J/X	I	
NHFLA-MW7BR-DEC2020 (N)/ TN0335-2	Phenol-d6	2.690	10 - 90	10 - 90	percent	J/X	I	
NHFLA-MW7OB-DEC2020 (N)/ TN0335-1	2-Fluorophenol	1.470	19 - 119	10 - 119	percent	J/X	I	
NHFLA-MW7OB-DEC2020 (N)/ TN0335-1	2,4,6-Tribromophenol	1.930	43 - 140	10 - 140	percent	J/X	I	
NHFLA-MW7OB-DEC2020 (N)/ TN0335-1	Phenol-d6	3.230	10 - 90	10 - 90	percent	J/X	I	
NHFLA-MW8-DEC2020 (N)/ TN0335-5	2-Fluorophenol	0.000	19 - 119	10 - 119	percent	J/X	I	
NHFLA-MW8-DEC2020 (N)/ TN0335-5	2,4,6-Tribromophenol	0.000	43 - 140	10 - 140	percent	J/X	I	

Quality Control Outliers for test method SW8270, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW8-DEC2020 (N)/ TN0335-5	Phenol-d6	1.400	10 - 90	10 - 90	percent	J/X	I	
NHFLA-MW9BR-DEC2020 (N)/ TN0335-4	2-Fluorophenol	0.000	19 - 119	10 - 119	percent	J/X	I	
NHFLA-MW9BR-DEC2020 (N)/ TN0335-4	2,4,6-Tribromophenol	0.000	43 - 140	10 - 140	percent	J/X	I	
NHFLA-MW9BR-DEC2020 (N)/ TN0335-4	Phenol-d6	1.560	10 - 90	10 - 90	percent	J/X	I	
NHFLA-MW9OB-DEC2020 (N)/ TN0335-3	2-Fluorophenol	0.000	19 - 119	10 - 119	percent	J/X	I	
NHFLA-MW9OB-DEC2020 (N)/ TN0335-3	2,4,6-Tribromophenol	0.000	43 - 140	10 - 140	percent	J/X	I	
NHFLA-MW9OB-DEC2020 (N)/ TN0335-3	Phenol-d6	2.830	10 - 90	10 - 90	percent	J/X	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP14-DEC2020	FD	2,3,4,6-Tetrachlorophenol	10.0	7.60 UL	7.60 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	2,4,5-Trichlorophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	2,4,6-Trichlorophenol	10.0	7.60 UL	7.60 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	2,4-Dichlorophenol	10.0	7.60 UL	7.60 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	2,4-Dimethylphenol	10.0	7.60 U	7.60 X		ug/l	I
NHFLA-DUP14-DEC2020	FD	2,4-Dinitrophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	2-Chlorophenol	10.0	7.60 UL	7.60 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	2-Methylphenol (o-Cresol)	10.0	7.60 U	7.60 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	2-Nitrophenol	10.0	7.60 UL	7.60 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	4,6-Dinitro-2-methylphenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	4-Chloro-3-methylphenol	10.0	7.60 UL	7.60 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	4-Nitrophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	Cresols, m- & p-	10.0	7.60 U	7.60 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	Pentachlorophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	Phenol	10.0	7.60 UL	7.60 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	2,3,4,6-Tetrachlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	2,4,6-Trichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	2,4-Dichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP15-DEC2020	FD	2,4-Dimethylphenol	9.40	7.10 U	7.10 X		ug/l	I
NHFLA-DUP15-DEC2020	FD	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	2-Chlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	2-Methylphenol (o-Cresol)	9.40	7.10 U	7.10 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	2-Nitrophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	4-Chloro-3-methylphenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	Cresols, m- & p-	9.40	7.10 U	7.10 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	Phenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	2,3,4,6-Tetrachlorophenol	13.0	9.70 UL	9.70 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	2,4,5-Trichlorophenol	32.0	24.0 UL	24.0 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	2,4,6-Trichlorophenol	13.0	9.70 UL	9.70 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	2,4-Dichlorophenol	13.0	9.70 UL	9.70 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	2,4-Dimethylphenol	13.0	9.70 U	9.70 X		ug/l	I
NHFLA-EB25-DEC2020	EB	2,4-Dinitrophenol	32.0	24.0 UL	24.0 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	2-Chlorophenol	13.0	9.70 UL	9.70 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	2-Methylphenol (o-Cresol)	13.0	9.70 U	9.70 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	2-Nitrophenol	13.0	9.70 UL	9.70 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	4,6-Dinitro-2-methylphenol	32.0	24.0 UL	24.0 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	4-Chloro-3-methylphenol	13.0	9.70 UL	9.70 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	4-Nitrophenol	32.0	24.0 UL	24.0 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	Cresols, m- & p-	13.0	9.70 U	9.70 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	Pentachlorophenol	32.0	24.0 UL	24.0 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	Phenol	13.0	9.70 UL	9.70 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	2,3,4,6-Tetrachlorophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	2,4,6-Trichlorophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	2,4-Dichlorophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	2,4-Dimethylphenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-MW15-DEC2020	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	2-Chlorophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	2-Methylphenol (o-Cresol)	9.50	7.10 U	7.10 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	2-Nitrophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	4-Chloro-3-methylphenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	Cresols, m- & p-	9.50	7.10 U	7.10 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	Phenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	2,3,4,6-Tetrachlorophenol	10.0	7.50 UL	7.50 X		ug/l	C/I

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW7BR-DEC2020	N	2,4,5-Trichlorophenol	25.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	2,4,6-Trichlorophenol	10.0	7.50 UL	7.50 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	2,4-Dichlorophenol	10.0	7.50 UL	7.50 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	2,4-Dimethylphenol	10.0	7.50 U	7.50 X		ug/l	I
NHFLA-MW7BR-DEC2020	N	2,4-Dinitrophenol	25.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	2-Chlorophenol	10.0	7.50 UL	7.50 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	2-Methylphenol (o-Cresol)	10.0	7.50 U	7.50 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	2-Nitrophenol	10.0	7.50 UL	7.50 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	4,6-Dinitro-2-methylphenol	25.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	4-Chloro-3-methylphenol	10.0	7.50 UL	7.50 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	4-Nitrophenol	25.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	Cresols, m- & p-	10.0	7.50 U	7.50 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	Pentachlorophenol	25.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	Phenol	10.0	7.50 UL	7.50 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	2,3,4,6-Tetrachlorophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	2,4,6-Trichlorophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	2,4-Dichlorophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	2,4-Dimethylphenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-MW7OB-DEC2020	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	2-Chlorophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	2-Methylphenol (o-Cresol)	9.50	7.10 U	7.10 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	2-Nitrophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	4-Chloro-3-methylphenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	Cresols, m- & p-	9.50	7.10 U	7.10 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	Phenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	2,3,4,6-Tetrachlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	2,4,6-Trichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	2,4-Dichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	2,4-Dimethylphenol	9.40	7.10 U	7.10 X		ug/l	I
NHFLA-MW8-DEC2020	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	2-Chlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	2-Methylphenol (o-Cresol)	9.40	7.10 U	7.10 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	2-Nitrophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	4-Chloro-3-methylphenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	Cresols, m- & p-	9.40	7.10 U	7.10 X		ug/l	C/I

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW8-DEC2020	N	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	Phenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	2,3,4,6-Tetrachlorophenol	10.0	7.90 UL	7.90 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	2,4,5-Trichlorophenol	26.0	20.0 UL	20.0 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	2,4,6-Trichlorophenol	10.0	7.90 UL	7.90 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	2,4-Dichlorophenol	10.0	7.90 UL	7.90 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	2,4-Dimethylphenol	10.0	7.90 U	7.90 X		ug/l	I
NHFLA-MW9BR-DEC2020	N	2,4-Dinitrophenol	26.0	20.0 UL	20.0 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	2-Chlorophenol	10.0	7.90 UL	7.90 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	2-Methylphenol (o-Cresol)	10.0	7.90 U	7.90 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	2-Nitrophenol	10.0	7.90 UL	7.90 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	4,6-Dinitro-2-methylphenol	26.0	20.0 UL	20.0 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	4-Chloro-3-methylphenol	10.0	7.90 UL	7.90 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	4-Nitrophenol	26.0	20.0 UL	20.0 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	Cresols, m- & p-	10.0	7.90 U	7.90 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	Pentachlorophenol	26.0	20.0 UL	20.0 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	Phenol	10.0	7.90 UL	7.90 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	2,3,4,6-Tetrachlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	2,4,6-Trichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	2,4-Dichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	2,4-Dimethylphenol	9.40	7.10 U	7.10 X		ug/l	I
NHFLA-MW9OB-DEC2020	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	2-Chlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	2-Methylphenol (o-Cresol)	9.40	7.10 U	7.10 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	2-Nitrophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	4-Chloro-3-methylphenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	Cresols, m- & p-	9.40	7.10 U	7.10 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	Phenol	9.40	7.10 UL	7.10 X		ug/l	C/I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Table of All Qualified Results

Test Method: BNASIM	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP15-DEC2020	FD	2-Methylnaphthalene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Acenaphthene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Acenaphthylene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Anthracene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Benzo(a)anthracene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Benzo(a)pyrene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Benzo(b)fluoranthene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Benzo(g,h,i)perylene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Benzo(k)fluoranthene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Chrysene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Dibenz(a,h)anthracene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Fluoranthene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Fluorene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Indeno(1,2,3-c,d)pyrene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Naphthalene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Phenanthrene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-DUP15-DEC2020	FD	Pyrene	0.190	0.0940 U	0.0940 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	2-Methylnaphthalene	0.260	0.130 U	0.130 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	Acenaphthene	0.260	0.130 U	0.130 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	Acenaphthylene	0.260	0.130 U	0.130 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	Anthracene	0.260	0.130 U	0.130 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	Benzo(a)anthracene	0.260	0.130 U	0.130 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	Benzo(a)pyrene	0.260	0.130 U	0.130 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	Benzo(b)fluoranthene	0.260	0.130 U	0.130 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	Benzo(g,h,i)perylene	0.260	0.130 U	0.130 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	Benzo(k)fluoranthene	0.260	0.130 U	0.130 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	Chrysene	0.260	0.130 U	0.130 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	Dibenz(a,h)anthracene	0.260	0.130 U	0.130 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	Fluoranthene	0.260	0.130 U	0.130 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	Fluorene	0.260	0.130 U	0.130 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	Indeno(1,2,3-c,d)pyrene	0.260	0.130 U	0.130 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	Naphthalene	0.260	0.130 U	0.130 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	Phenanthrene	0.260	0.130 U	0.130 UJ		ug/l	H2
NHFLA-EB25-DEC2020	EB	Pyrene	0.260	0.130 U	0.130 UJ		ug/l	H2

Test Method: SW6020	Extraction Method: Dissolved							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP14-DEC2020	FD	Aluminum	100	36.0 J	40.0 U		ug/l	V
NHFLA-DUP14-DEC2020	FD	Copper	3.00	0.940 J	2.00 U		ug/l	V
NHFLA-DUP15-DEC2020	FD	Iron	100	907	907 J	-	ug/l	M
NHFLA-DUP15-DEC2020	FD	Aluminum	100	18.0 J	40.0 U		ug/l	V

Table of All Qualified Results

Test Method: SW6020 Extraction Method: Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP15-DEC2020	FD	Copper	3.00	1.20 J	2.00 U		ug/l	V
NHFLA-MW15-DEC2020	N	Aluminum	100	13.0 J	40.0 U		ug/l	V
NHFLA-MW15-DEC2020	N	Copper	3.00	1.00 J	2.00 U		ug/l	V
NHFLA-MW7BR-DEC2020	N	Copper	3.00	1.00 J	2.00 U		ug/l	V
NHFLA-MW7OB-DEC2020	N	Copper	3.00	0.580 J	2.00 U		ug/l	V
NHFLA-MW8-DEC2020	N	Aluminum	100	84.4 J	100 U		ug/l	V
NHFLA-MW8-DEC2020	N	Copper	3.00	1.10 J	2.00 U		ug/l	V
NHFLA-MW9BR-DEC2020	N	Aluminum	100	27.0 J	40.0 U		ug/l	V
NHFLA-MW9BR-DEC2020	N	Copper	3.00	1.60 J	2.00 U		ug/l	V
NHFLA-MW9OB-DEC2020	N	Aluminum	100	18.0 J	40.0 U		ug/l	V
NHFLA-MW9OB-DEC2020	N	Copper	3.00	1.10 J	2.00 U		ug/l	V

Test Method: SW6020 Extraction Method: SW3010

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP14-DEC2020	FD	Chromium	5.00	0.570 J	4.00 U		ug/l	L
NHFLA-DUP14-DEC2020	FD	Nickel	2.00	0.630 J	1.20 U		ug/l	L
NHFLA-DUP14-DEC2020	FD	Copper	3.00	1.10 J	2.00 U		ug/l	V/L
NHFLA-DUP14-DEC2020	FD	Cobalt	1.00	0.100 J	0.300 U		ug/l	V/L
NHFLA-DUP15-DEC2020	FD	Chromium	5.00	0.340 J	4.00 U		ug/l	L
NHFLA-DUP15-DEC2020	FD	Aluminum	100	24.0 J	40.0 U		ug/l	V/L
NHFLA-DUP15-DEC2020	FD	Copper	3.00	1.20 J	2.00 U		ug/l	V/L
NHFLA-EB25-DEC2020	EB	Aluminum	100	11.0 J	40.0 U		ug/l	L
NHFLA-EB25-DEC2020	EB	Cobalt	1.00	0.0600 J	0.300 U		ug/l	L
NHFLA-EB25-DEC2020	EB	Copper	3.00	0.420 J	2.00 U		ug/l	L
NHFLA-EB25-DEC2020	EB	Magnesium	100	18.0 J	80.0 U		ug/l	L
NHFLA-EB25-DEC2020	EB	Manganese	2.00	0.390 J	1.00 U		ug/l	L
NHFLA-EB25-DEC2020	EB	Potassium	1000	61.0 J	400 U		ug/l	L
NHFLA-EB25-DEC2020	EB	Sodium	1000	248 J	400 U		ug/l	L
NHFLA-MW15-DEC2020	N	Chromium	5.00	0.530 J	4.00 U		ug/l	L
NHFLA-MW15-DEC2020	N	Copper	3.00	1.20 J	2.00 U		ug/l	V/L
NHFLA-MW15-DEC2020	N	Cobalt	1.00	0.460 J	1.00 U		ug/l	V/L
NHFLA-MW7BR-DEC2020	N	Chromium	5.00	0.550 J	4.00 U		ug/l	L
NHFLA-MW7BR-DEC2020	N	Nickel	2.00	0.940 J	1.20 U		ug/l	L
NHFLA-MW7BR-DEC2020	N	Copper	3.00	0.980 J	2.00 U		ug/l	V/L
NHFLA-MW7BR-DEC2020	N	Cobalt	1.00	0.140 J	0.300 U		ug/l	V/L
NHFLA-MW7OB-DEC2020	N	Chromium	5.00	0.350 J	4.00 U		ug/l	L
NHFLA-MW7OB-DEC2020	N	Nickel	2.00	0.630 J	1.20 U		ug/l	L
NHFLA-MW7OB-DEC2020	N	Aluminum	100	34.0 J	40.0 U		ug/l	V/L
NHFLA-MW7OB-DEC2020	N	Copper	3.00	0.880 J	2.00 U		ug/l	V/L
NHFLA-MW7OB-DEC2020	N	Cobalt	1.00	0.170 J	0.300 U		ug/l	V/L
NHFLA-MW8-DEC2020	N	Chromium	5.00	0.700 J	4.00 U		ug/l	L
NHFLA-MW8-DEC2020	N	Aluminum	100	94.9 J	100 U		ug/l	V/L
NHFLA-MW8-DEC2020	N	Copper	3.00	0.400 J	2.00 U		ug/l	V/L

Table of All Qualified Results

Test Method: SW6020 Extraction Method: SW3010								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW8-DEC2020	N	Cobalt	1.00	0.603 J	1.00 U		ug/l	V/L
NHFLA-MW9BR-DEC2020	N	Chromium	5.00	0.590 J	4.00 U		ug/l	L
NHFLA-MW9BR-DEC2020	N	Nickel	2.00	0.790 J	1.20 U		ug/l	L
NHFLA-MW9BR-DEC2020	N	Copper	3.00	0.830 J	2.00 U		ug/l	V/L
NHFLA-MW9BR-DEC2020	N	Cobalt	1.00	0.160 J	0.300 U		ug/l	V/L
NHFLA-MW9OB-DEC2020	N	Chromium	5.00	0.450 J	4.00 U		ug/l	L
NHFLA-MW9OB-DEC2020	N	Nickel	2.00	1.88 J	2.00 U		ug/l	L
NHFLA-MW9OB-DEC2020	N	Aluminum	100	22.0 J	40.0 U		ug/l	V/L
NHFLA-MW9OB-DEC2020	N	Copper	3.00	1.10 J	2.00 U		ug/l	V/L

Test Method: SW8260 Extraction Method: SW5030								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP15-DEC2020	FD	Methylcyclohexane	1.00	2.50	2.50 J		ug/l	D3
NHFLA-DUP15-DEC2020	FD	Acetone	5.00	5.30	5.30 J	+	ug/l	V
NHFLA-EB25-DEC2020	EB	1,1,1-Trichloroethane	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	1,1,2-Trichloro-1,2,2-trifluoroethane	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	1,1,2-Trichloroethane	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	1,1-Dichloroethane	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	1,1-Dichloroethene	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	1,2,3-Trichlorobenzene	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	1,2,4-Trichlorobenzene	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	1,2-Dibromo-3-chloropropane	1.00	0.750 U	0.750 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	1,2-Dibromoethane (EDB)	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	1,2-Dichlorobenzene	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	1,2-Dichloroethane	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	1,2-Dichloropropane	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	1,3-Dichlorobenzene	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	1,4-Dichlorobenzene	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	2-Butanone (MEK)	5.00	2.50 U	2.50 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	2-Hexanone	5.00	2.50 U	2.50 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Acetone	5.00	11.0	11.0 J	-	ug/l	H1
NHFLA-EB25-DEC2020	EB	Benzene	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Bromochloromethane	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Bromodichloromethane	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Bromoform	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Bromomethane	2.00	1.00 U	1.00 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Carbon disulfide	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Carbon tetrachloride	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Chlorobenzene	1.00	0.500 U	0.500 UJ		ug/l	H1

Table of All Qualified Results

Test Method: SW8260	Extraction Method: SW5030							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB25-DEC2020	EB	Chloroethane	2.00	1.00 U	1.00 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Chloroform	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Chloromethane	2.00	1.00 U	1.00 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Cyclohexane	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Dibromochloromethane	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Dichlorodifluoromethane	2.00	1.00 U	1.00 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Ethylbenzene	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Isopropylbenzene (Cumene)	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	m,p-Xylene	2.00	1.00 U	1.00 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Methyl acetate	1.00	0.750 U	0.750 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Methyl tert-butyl ether (MTBE)	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Methylcyclohexane	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	o-Xylene	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Styrene	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Toluene	1.00	0.380 J	0.380 J	-	ug/l	H1/TR
NHFLA-EB25-DEC2020	EB	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Trichloroethene (TCE)	1.00	0.500 U	0.500 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Trichlorofluoromethane	2.00	1.00 U	1.00 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Vinyl chloride	2.00	1.00 U	1.00 UJ		ug/l	H1
NHFLA-EB25-DEC2020	EB	Methylene chloride	5.00	1.40 J	2.50 UJ		ug/l	L/H1
NHFLA-MW9OB-DEC2020	N	Methylcyclohexane	1.00	0.500 U	0.500 UJ		ug/l	D3

Test Method: SW8270	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP14-DEC2020	FD	2,3,4,6-Tetrachlorophenol	10.0	7.60 UL	7.60 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	2,4,5-Trichlorophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	2,4,6-Trichlorophenol	10.0	7.60 UL	7.60 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	2,4-Dichlorophenol	10.0	7.60 UL	7.60 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	2,4-Dimethylphenol	10.0	7.60 U	7.60 X		ug/l	I
NHFLA-DUP14-DEC2020	FD	2,4-Dinitrophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	2-Chlorophenol	10.0	7.60 UL	7.60 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	2-Methylphenol (o-Cresol)	10.0	7.60 U	7.60 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	2-Nitrophenol	10.0	7.60 UL	7.60 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	4,6-Dinitro-2-methylphenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	4-Chloro-3-methylphenol	10.0	7.60 UL	7.60 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	Cresols, m- & p-	10.0	7.60 U	7.60 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	Pentachlorophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-DUP14-DEC2020	FD	Phenol	10.0	7.60 UL	7.60 X		ug/l	C/I

Table of All Qualified Results

Test Method: SW8270 Extraction Method: SW3510

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP14-DEC2020	FD	4-Nitrophenol	26.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	2,3,4,6-Tetrachlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	2,4,6-Trichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	2,4-Dichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	2,4-Dimethylphenol	9.40	7.10 U	7.10 X		ug/l	I
NHFLA-DUP15-DEC2020	FD	2-Chlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	2-Methylphenol (o-Cresol)	9.40	7.10 U	7.10 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	2-Nitrophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	4-Chloro-3-methylphenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	Cresols, m- & p-	9.40	7.10 U	7.10 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	Phenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-DUP15-DEC2020	FD	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	2,4-Dimethylphenol	13.0	9.70 U	9.70 X		ug/l	I
NHFLA-EB25-DEC2020	EB	2-Chlorophenol	13.0	9.70 UL	9.70 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	Phenol	13.0	9.70 UL	9.70 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	2,3,4,6-Tetrachlorophenol	13.0	9.70 UL	9.70 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	2,4,5-Trichlorophenol	32.0	24.0 UL	24.0 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	2,4,6-Trichlorophenol	13.0	9.70 UL	9.70 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	2,4-Dichlorophenol	13.0	9.70 UL	9.70 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	2,4-Dinitrophenol	32.0	24.0 UL	24.0 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	2-Methylphenol (o-Cresol)	13.0	9.70 U	9.70 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	2-Nitrophenol	13.0	9.70 UL	9.70 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	4,6-Dinitro-2-methylphenol	32.0	24.0 UL	24.0 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	4-Chloro-3-methylphenol	13.0	9.70 UL	9.70 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	Cresols, m- & p-	13.0	9.70 U	9.70 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	Pentachlorophenol	32.0	24.0 UL	24.0 X		ug/l	C/I
NHFLA-EB25-DEC2020	EB	4-Nitrophenol	32.0	24.0 UL	24.0 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	2,3,4,6-Tetrachlorophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	2,4,6-Trichlorophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	2,4-Dichlorophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	2,4-Dimethylphenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-MW15-DEC2020	N	2-Chlorophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	2-Methylphenol (o-Cresol)	9.50	7.10 U	7.10 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	2-Nitrophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	4-Chloro-3-methylphenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	Cresols, m- & p-	9.50	7.10 U	7.10 X		ug/l	C/I

Table of All Qualified Results

Test Method: SW8270 Extraction Method: SW3510

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW15-DEC2020	N	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	Phenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW15-DEC2020	N	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	2,4-Dichlorophenol	10.0	7.50 UL	7.50 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	2,4-Dimethylphenol	10.0	7.50 U	7.50 X		ug/l	I
NHFLA-MW7BR-DEC2020	N	2-Chlorophenol	10.0	7.50 UL	7.50 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	2-Methylphenol (o-Cresol)	10.0	7.50 U	7.50 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	4-Chloro-3-methylphenol	10.0	7.50 UL	7.50 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	Cresols, m- & p-	10.0	7.50 U	7.50 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	Phenol	10.0	7.50 UL	7.50 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	2,3,4,6-Tetrachlorophenol	10.0	7.50 UL	7.50 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	2,4,5-Trichlorophenol	25.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	2,4,6-Trichlorophenol	10.0	7.50 UL	7.50 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	2,4-Dinitrophenol	25.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	2-Nitrophenol	10.0	7.50 UL	7.50 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	4,6-Dinitro-2-methylphenol	25.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	Pentachlorophenol	25.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW7BR-DEC2020	N	4-Nitrophenol	25.0	19.0 UL	19.0 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	2,4-Dichlorophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	2,4-Dimethylphenol	9.50	7.10 U	7.10 X		ug/l	I
NHFLA-MW7OB-DEC2020	N	2-Chlorophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	2-Methylphenol (o-Cresol)	9.50	7.10 U	7.10 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	4-Chloro-3-methylphenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	Cresols, m- & p-	9.50	7.10 U	7.10 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	Phenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	2,3,4,6-Tetrachlorophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	2,4,6-Trichlorophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	2-Nitrophenol	9.50	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW7OB-DEC2020	N	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	2,3,4,6-Tetrachlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	2,4,6-Trichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	2,4-Dichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	2,4-Dimethylphenol	9.40	7.10 U	7.10 X		ug/l	I
NHFLA-MW8-DEC2020	N	2-Chlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	2-Methylphenol (o-Cresol)	9.40	7.10 U	7.10 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	2-Nitrophenol	9.40	7.10 UL	7.10 X		ug/l	C/I

Table of All Qualified Results

Test Method: SW8270 Extraction Method: SW3510

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW8-DEC2020	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	4-Chloro-3-methylphenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	Cresols, m- & p-	9.40	7.10 U	7.10 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	Phenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW8-DEC2020	N	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	2,3,4,6-Tetrachlorophenol	10.0	7.90 UL	7.90 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	2,4,5-Trichlorophenol	26.0	20.0 UL	20.0 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	2,4,6-Trichlorophenol	10.0	7.90 UL	7.90 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	2,4-Dichlorophenol	10.0	7.90 UL	7.90 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	2,4-Dimethylphenol	10.0	7.90 U	7.90 X		ug/l	I
NHFLA-MW9BR-DEC2020	N	2-Chlorophenol	10.0	7.90 UL	7.90 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	2-Methylphenol (o-Cresol)	10.0	7.90 U	7.90 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	2-Nitrophenol	10.0	7.90 UL	7.90 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	4,6-Dinitro-2-methylphenol	26.0	20.0 UL	20.0 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	4-Chloro-3-methylphenol	10.0	7.90 UL	7.90 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	Cresols, m- & p-	10.0	7.90 U	7.90 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	Pentachlorophenol	26.0	20.0 UL	20.0 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	Phenol	10.0	7.90 UL	7.90 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	2,4-Dinitrophenol	26.0	20.0 UL	20.0 X		ug/l	C/I
NHFLA-MW9BR-DEC2020	N	4-Nitrophenol	26.0	20.0 UL	20.0 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	2,3,4,6-Tetrachlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	2,4,6-Trichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	2,4-Dichlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	2,4-Dimethylphenol	9.40	7.10 U	7.10 X		ug/l	I
NHFLA-MW9OB-DEC2020	N	2-Chlorophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	2-Methylphenol (o-Cresol)	9.40	7.10 U	7.10 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	2-Nitrophenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	4-Chloro-3-methylphenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	Cresols, m- & p-	9.40	7.10 U	7.10 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	Pentachlorophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	Phenol	9.40	7.10 UL	7.10 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I
NHFLA-MW9OB-DEC2020	N	4-Nitrophenol	24.0	18.0 UL	18.0 X		ug/l	C/I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW6020, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP14-DEC2020	FD	Cobalt	1.00	0.0800 J	0.300 U	0.300 U	L
NHFLA-MW15-DEC2020	N	Cobalt	1.00	0.340 J	1.00 U	1.00 U	L
NHFLA-MW7BR-DEC2020	N	Cobalt	1.00	0.140 J	0.300 U	0.300 U	L
NHFLA-MW7OB-DEC2020	N	Cobalt	1.00	0.0760 J	0.300 U	0.300 U	L
NHFLA-MW8-DEC2020	N	Cobalt	1.00	0.570 J	1.00 U	1.00 U	L
NHFLA-MW9BR-DEC2020	N	Cobalt	1.00	0.170 J	0.300 U	0.300 U	L
NHFLA-MW9OB-DEC2020	N	Iron	100	990	990 J	990	

Modified Qualifiers for test method SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP15-DEC2020	FD	Zinc	10.0	14.0	14.0 J	14.0	
NHFLA-MW9OB-DEC2020	N	Zinc	10.0	8.00 U	8.00 UJ	8.00 U	

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP14-DEC2020	FD	1,1,1-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	1,1,2-Trichloro-1,2,2-trifluoroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	1,1,2-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	1,1-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	1,1-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	1,2,3-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	1,2,4-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	1,2-Dibromo-3-chloropropane	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-DUP14-DEC2020	FD	1,2-Dibromoethane (EDB)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	1,2-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	1,2-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	1,2-Dichloropropane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	1,3-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	1,4-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	2-Butanone (MEK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP14-DEC2020	FD	2-Hexanone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP14-DEC2020	FD	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP14-DEC2020	FD	Acetone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP14-DEC2020	FD	Benzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	Bromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	Bromodichloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	Bromoform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	Bromomethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-DUP14-DEC2020	FD	Carbon disulfide	1.00	0.500 U	0.500 UJ	0.500 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP14-DEC2020	FD	Carbon tetrachloride	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	Chlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	Chloroethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-DUP14-DEC2020	FD	Chloroform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	Chloromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-DUP14-DEC2020	FD	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	Cyclohexane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	Dibromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	Dichlorodifluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-DUP14-DEC2020	FD	Ethylbenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	Isopropylbenzene (Cumene)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	m,p-Xylene	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-DUP14-DEC2020	FD	Methyl acetate	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-DUP14-DEC2020	FD	Methyl tert-butyl ether (MTBE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	Methylcyclohexane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	Methylene chloride	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP14-DEC2020	FD	o-Xylene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	Styrene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	Toluene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	Trichloroethene (TCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP14-DEC2020	FD	Trichlorofluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-DUP14-DEC2020	FD	Vinyl chloride	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-DUP15-DEC2020	FD	1,1,1-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	1,1,2-Trichloro-1,2,2-trifluoroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	1,1,2-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	1,1-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	1,1-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	1,2,3-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	1,2,4-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	1,2-Dibromo-3-chloropropane	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-DUP15-DEC2020	FD	1,2-Dibromoethane (EDB)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	1,2-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	1,2-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	1,2-Dichloropropane	1.00	0.500 U	0.500 UJ	0.500 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP15-DEC2020	FD	1,3-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	1,4-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	2-Butanone (MEK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP15-DEC2020	FD	2-Hexanone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP15-DEC2020	FD	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP15-DEC2020	FD	Acetone	5.00	5.30	5.30 J	5.30 J	V
NHFLA-DUP15-DEC2020	FD	Benzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	Bromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	Bromodichloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	Bromoform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	Bromomethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-DUP15-DEC2020	FD	Carbon disulfide	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	Carbon tetrachloride	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	Chlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	Chloroethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-DUP15-DEC2020	FD	Chloroform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	Chloromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-DUP15-DEC2020	FD	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	Cyclohexane	1.00	0.850 J	0.850 J	0.850	
NHFLA-DUP15-DEC2020	FD	Dibromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	Dichlorodifluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-DUP15-DEC2020	FD	Ethylbenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	Isopropylbenzene (Cumene)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	m,p-Xylene	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-DUP15-DEC2020	FD	Methyl acetate	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-DUP15-DEC2020	FD	Methyl tert-butyl ether (MTBE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	Methylcyclohexane	1.00	2.50	2.50 J	2.50 J	D3
NHFLA-DUP15-DEC2020	FD	Methylene chloride	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-DUP15-DEC2020	FD	o-Xylene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	Styrene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	Toluene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-DUP15-DEC2020	FD	Trichloroethene (TCE)	1.00	0.410 J	0.410 J	0.410	
NHFLA-DUP15-DEC2020	FD	Trichlorofluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-DUP15-DEC2020	FD	Vinyl chloride	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW15-DEC2020	N	1,1,1-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 UJ	0.500 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW15-DEC2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	1,1,2-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	1,1-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	1,1-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	1,2,3-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	1,2,4-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	1,2-Dibromo-3-chloropropane	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW15-DEC2020	N	1,2-Dibromoethane (EDB)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	1,2-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	1,2-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	1,2-Dichloropropane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	1,3-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	1,4-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	2-Butanone (MEK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW15-DEC2020	N	2-Hexanone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW15-DEC2020	N	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW15-DEC2020	N	Acetone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW15-DEC2020	N	Benzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	Bromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	Bromodichloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	Bromoform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	Bromomethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW15-DEC2020	N	Carbon disulfide	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	Carbon tetrachloride	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	Chlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	Chloroethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW15-DEC2020	N	Chloroform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	Chloromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW15-DEC2020	N	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	Cyclohexane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	Dibromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	Dichlorodifluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW15-DEC2020	N	Ethylbenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	Isopropylbenzene (Cumene)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	m,p-Xylene	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW15-DEC2020	N	Methyl acetate	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW15-DEC2020	N	Methyl tert-butyl ether (MTBE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	Methylcyclohexane	1.00	0.500 U	0.500 UJ	0.500 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW15-DEC2020	N	Methylene chloride	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW15-DEC2020	N	o-Xylene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	Styrene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	Toluene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	Trichloroethene (TCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW15-DEC2020	N	Trichlorofluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW15-DEC2020	N	Vinyl chloride	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW7BR-DEC2020	N	1,1,1-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	1,1,2-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	1,1-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	1,1-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	1,2,3-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	1,2,4-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	1,2-Dibromo-3-chloropropane	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW7BR-DEC2020	N	1,2-Dibromoethane (EDB)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	1,2-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	1,2-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	1,2-Dichloropropane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	1,3-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	1,4-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	2-Butanone (MEK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW7BR-DEC2020	N	2-Hexanone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW7BR-DEC2020	N	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW7BR-DEC2020	N	Acetone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW7BR-DEC2020	N	Benzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	Bromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	Bromodichloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	Bromoform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	Bromomethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW7BR-DEC2020	N	Carbon disulfide	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	Carbon tetrachloride	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	Chlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	Chloroethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW7BR-DEC2020	N	Chloroform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	Chloromethane	2.00	1.00 U	1.00 UJ	1.00 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW7BR-DEC2020	N	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	Cyclohexane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	Dibromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	Dichlorodifluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW7BR-DEC2020	N	Ethylbenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	Isopropylbenzene (Cumene)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	m,p-Xylene	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW7BR-DEC2020	N	Methyl acetate	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW7BR-DEC2020	N	Methyl tert-butyl ether (MTBE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	Methylcyclohexane	1.00	0.550 J	0.550 J	0.550	
NHFLA-MW7BR-DEC2020	N	Methylene chloride	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW7BR-DEC2020	N	o-Xylene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	Styrene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	Toluene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	Trichloroethene (TCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7BR-DEC2020	N	Trichlorofluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW7BR-DEC2020	N	Vinyl chloride	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW7OB-DEC2020	N	1,1,1-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	1,1,2-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	1,1-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	1,1-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	1,2,3-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	1,2,4-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	1,2-Dibromo-3-chloropropane	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW7OB-DEC2020	N	1,2-Dibromoethane (EDB)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	1,2-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	1,2-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	1,2-Dichloropropane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	1,3-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	1,4-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	2-Butanone (MEK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW7OB-DEC2020	N	2-Hexanone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW7OB-DEC2020	N	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 UJ	2.50 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW7OB-DEC2020	N	Acetone	5.00	2.20 J	2.50 UJ	2.50 U	
NHFLA-MW7OB-DEC2020	N	Benzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	Bromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	Bromodichloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	Bromoform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	Bromomethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW7OB-DEC2020	N	Carbon disulfide	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	Carbon tetrachloride	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	Chlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	Chloroethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW7OB-DEC2020	N	Chloroform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	Chloromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW7OB-DEC2020	N	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	Cyclohexane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	Dibromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	Dichlorodifluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW7OB-DEC2020	N	Ethylbenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	Isopropylbenzene (Cumene)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	m,p-Xylene	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW7OB-DEC2020	N	Methyl acetate	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW7OB-DEC2020	N	Methyl tert-butyl ether (MTBE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	Methylcyclohexane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	Methylene chloride	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW7OB-DEC2020	N	o-Xylene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	Styrene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	Toluene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	Trichloroethene (TCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW7OB-DEC2020	N	Trichlorofluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW7OB-DEC2020	N	Vinyl chloride	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW8-DEC2020	N	1,1,1-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	1,1,2-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	1,1-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	1,1-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	1,2,3-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW8-DEC2020	N	1,2,4-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	1,2-Dibromo-3-chloropropane	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW8-DEC2020	N	1,2-Dibromoethane (EDB)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	1,2-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	1,2-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	1,2-Dichloropropane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	1,3-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	1,4-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	2-Butanone (MEK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW8-DEC2020	N	2-Hexanone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW8-DEC2020	N	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW8-DEC2020	N	Acetone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW8-DEC2020	N	Benzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	Bromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	Bromodichloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	Bromoform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	Bromomethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW8-DEC2020	N	Carbon disulfide	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	Carbon tetrachloride	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	Chlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	Chloroethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW8-DEC2020	N	Chloroform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	Chloromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW8-DEC2020	N	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	Cyclohexane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	Dibromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	Dichlorodifluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW8-DEC2020	N	Ethylbenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	Isopropylbenzene (Cumene)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	m,p-Xylene	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW8-DEC2020	N	Methyl acetate	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW8-DEC2020	N	Methyl tert-butyl ether (MTBE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	Methylcyclohexane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	Methylene chloride	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW8-DEC2020	N	o-Xylene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	Styrene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	Toluene	1.00	0.500 U	0.500 UJ	0.500 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW8-DEC2020	N	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	Trichloroethene (TCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW8-DEC2020	N	Trichlorofluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW8-DEC2020	N	Vinyl chloride	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW9BR-DEC2020	N	1,1,1-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-DEC2020	N	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-DEC2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-DEC2020	N	1,1,2-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-DEC2020	N	1,1-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-DEC2020	N	1,1-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-DEC2020	N	1,2,3-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-DEC2020	N	1,2,4-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-DEC2020	N	1,2-Dibromo-3-chloropropane	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW9BR-DEC2020	N	1,2-Dibromoethane (EDB)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-DEC2020	N	1,2-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-DEC2020	N	1,2-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-DEC2020	N	1,2-Dichloropropane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-DEC2020	N	1,3-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-DEC2020	N	1,4-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-DEC2020	N	2-Butanone (MEK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW9BR-DEC2020	N	2-Hexanone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW9BR-DEC2020	N	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW9BR-DEC2020	N	Acetone	5.00	2.60 J	5.00 UJ	5.00 U	
NHFLA-MW9BR-DEC2020	N	Benzene	1.00	11.0	11.0 J	11.0	
NHFLA-MW9BR-DEC2020	N	Bromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-DEC2020	N	Bromodichloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-DEC2020	N	Bromoform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-DEC2020	N	Bromomethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW9BR-DEC2020	N	Carbon disulfide	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-DEC2020	N	Carbon tetrachloride	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-DEC2020	N	Chlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-DEC2020	N	Chloroethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW9BR-DEC2020	N	Chloroform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-DEC2020	N	Chloromethane	2.00	6.00	6.00 J	6.00	
NHFLA-MW9BR-DEC2020	N	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-DEC2020	N	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-DEC2020	N	Cyclohexane	1.00	9.00	9.00 J	9.00	
NHFLA-MW9BR-DEC2020	N	Dibromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-DEC2020	N	Dichlorodifluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW9BR-DEC2020	N	Ethylbenzene	1.00	1.90	1.90 J	1.90	
NHFLA-MW9BR-DEC2020	N	Isopropylbenzene (Cumene)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-DEC2020	N	m,p-Xylene	2.00	5.30	5.30 J	5.30	
NHFLA-MW9BR-DEC2020	N	Methyl acetate	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW9BR-DEC2020	N	Methyl tert-butyl ether (MTBE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-DEC2020	N	Methylcyclohexane	1.00	4.30	4.30 J	4.30	
NHFLA-MW9BR-DEC2020	N	Methylene chloride	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW9BR-DEC2020	N	o-Xylene	1.00	1.80	1.80 J	1.80	
NHFLA-MW9BR-DEC2020	N	Styrene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-DEC2020	N	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-DEC2020	N	Toluene	1.00	11.0	11.0 J	11.0	
NHFLA-MW9BR-DEC2020	N	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-DEC2020	N	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-DEC2020	N	Trichloroethene (TCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9BR-DEC2020	N	Trichlorofluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW9BR-DEC2020	N	Vinyl chloride	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW9OB-DEC2020	N	1,1,1-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	1,1,2-Trichloro-1,2,2-trifluoroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	1,1,2-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	1,1-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	1,1-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	1,2,3-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	1,2,4-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	1,2-Dibromo-3-chloropropane	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW9OB-DEC2020	N	1,2-Dibromoethane (EDB)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	1,2-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	1,2-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	1,2-Dichloropropane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	1,3-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	1,4-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	2-Butanone (MEK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW9OB-DEC2020	N	2-Hexanone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW9OB-DEC2020	N	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW9OB-DEC2020	N	Acetone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW9OB-DEC2020	N	Benzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	Bromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	Bromodichloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	Bromoform	1.00	0.500 U	0.500 UJ	0.500 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW9OB-DEC2020	N	Bromomethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW9OB-DEC2020	N	Carbon disulfide	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	Carbon tetrachloride	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	Chlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	Chloroethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW9OB-DEC2020	N	Chloroform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	Chloromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW9OB-DEC2020	N	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	Cyclohexane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	Dibromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	Dichlorodifluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW9OB-DEC2020	N	Ethylbenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	Isopropylbenzene (Cumene)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	m,p-Xylene	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW9OB-DEC2020	N	Methyl acetate	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-MW9OB-DEC2020	N	Methyl tert-butyl ether (MTBE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	Methylcyclohexane	1.00	0.500 U	0.500 UJ	0.500 UJ	D3
NHFLA-MW9OB-DEC2020	N	Methylene chloride	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-MW9OB-DEC2020	N	o-Xylene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	Styrene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	Toluene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	Trichloroethene (TCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-MW9OB-DEC2020	N	Trichlorofluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-MW9OB-DEC2020	N	Vinyl chloride	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-TB35-DEC2020	TB	1,1,1-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	1,1,2,2-Tetrachloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	1,1,2-Trichloro-1,2,2-trifluoroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	1,1,2-Trichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	1,1-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	1,1-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	1,2,3-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	1,2,4-Trichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	1,2-Dibromo-3-chloropropane	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-TB35-DEC2020	TB	1,2-Dibromoethane (EDB)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	1,2-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8260							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-TB35-DEC2020	TB	1,2-Dichloroethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	1,2-Dichloropropane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	1,3-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	1,4-Dichlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	2-Butanone (MEK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-TB35-DEC2020	TB	2-Hexanone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-TB35-DEC2020	TB	4-Methyl-2-pentanone (MIBK)	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-TB35-DEC2020	TB	Acetone	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-TB35-DEC2020	TB	Benzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	Bromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	Bromodichloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	Bromoform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	Bromomethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-TB35-DEC2020	TB	Carbon disulfide	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	Carbon tetrachloride	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	Chlorobenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	Chloroethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-TB35-DEC2020	TB	Chloroform	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	Chloromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-TB35-DEC2020	TB	cis-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	cis-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	Cyclohexane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	Dibromochloromethane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	Dichlorodifluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-TB35-DEC2020	TB	Ethylbenzene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	Isopropylbenzene (Cumene)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	m,p-Xylene	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-TB35-DEC2020	TB	Methyl acetate	1.00	0.750 U	0.750 UJ	0.750 U	
NHFLA-TB35-DEC2020	TB	Methyl tert-butyl ether (MTBE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	Methylcyclohexane	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	Methylene chloride	5.00	2.50 U	2.50 UJ	2.50 U	
NHFLA-TB35-DEC2020	TB	o-Xylene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	Styrene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	Tetrachloroethene (PCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	Toluene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	trans-1,2-Dichloroethene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	trans-1,3-Dichloropropene	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	Trichloroethene (TCE)	1.00	0.500 U	0.500 UJ	0.500 U	
NHFLA-TB35-DEC2020	TB	Trichlorofluoromethane	2.00	1.00 U	1.00 UJ	1.00 U	
NHFLA-TB35-DEC2020	TB	Vinyl chloride	2.00	1.00 U	1.00 UJ	1.00 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP14-DEC2020	FD	1,2,4,5-Tetrachlorobenzene	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	1,4-Dioxane (p-Dioxane)	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	2,2'-Oxybis(1-chloropropane)	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	2,4-Dinitrotoluene	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	2,6-Dinitrotoluene	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	2-Chloronaphthalene	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	2-Nitroaniline	26.0	19.0 U	19.0 X	19.0 U	
NHFLA-DUP14-DEC2020	FD	3,3'-Dichlorobenzidine	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	3-Nitroaniline	26.0	19.0 U	19.0 X	19.0 U	
NHFLA-DUP14-DEC2020	FD	4-Bromophenyl phenyl ether	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	4-Chloroaniline	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	4-Chlorophenyl phenyl ether	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	4-Nitroaniline	26.0	19.0 U	19.0 X	19.0 U	
NHFLA-DUP14-DEC2020	FD	Acetophenone	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	Atrazine	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	Benzaldehyde	10.0	7.60 UL	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	Benzyl butyl phthalate	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	Biphenyl (Diphenyl)	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	Bis(2-chloroethoxy)methane	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	Bis(2-ethylhexyl)phthalate	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	Caprolactam	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	Carbazole	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	Dibenzofuran	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	Diethyl phthalate	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	Dimethyl phthalate	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	Di-n-butyl phthalate	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	di-n-Octyl phthalate	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	Hexachlorobenzene	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	Hexachlorobutadiene	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	Hexachlorocyclopentadiene	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	Hexachloroethane	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	Isophorone	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	Nitrobenzene	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	N-Nitrosodi-n-propylamine	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP14-DEC2020	FD	N-Nitrosodiphenylamine	10.0	7.60 U	7.60 X	7.60 U	
NHFLA-DUP15-DEC2020	FD	1,2,4,5-Tetrachlorobenzene	9.40	7.10 U	7.10 X	7.10 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP15-DEC2020	FD	1,4-Dioxane (p-Dioxane)	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-DUP15-DEC2020	FD	2,2'-Oxybis(1-chloropropane)	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-DUP15-DEC2020	FD	2,4-Dinitrotoluene	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-DUP15-DEC2020	FD	2,6-Dinitrotoluene	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-DUP15-DEC2020	FD	2-Chloronaphthalene	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-DUP15-DEC2020	FD	2-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	
NHFLA-DUP15-DEC2020	FD	3,3'-Dichlorobenzidine	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-DUP15-DEC2020	FD	3-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	
NHFLA-DUP15-DEC2020	FD	4-Bromophenyl phenyl ether	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-DUP15-DEC2020	FD	4-Chloroaniline	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-DUP15-DEC2020	FD	4-Chlorophenyl phenyl ether	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-DUP15-DEC2020	FD	4-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	
NHFLA-DUP15-DEC2020	FD	Acetophenone	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-DUP15-DEC2020	FD	Atrazine	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-DUP15-DEC2020	FD	Benzaldehyde	9.40	7.10 UL	7.10 X	7.10 U	
NHFLA-DUP15-DEC2020	FD	Benzyl butyl phthalate	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-DUP15-DEC2020	FD	Biphenyl (Diphenyl)	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-DUP15-DEC2020	FD	Bis(2-chloroethoxy)methane	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-DUP15-DEC2020	FD	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-DUP15-DEC2020	FD	Bis(2-ethylhexyl)phthalate	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-DUP15-DEC2020	FD	Caprolactam	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-DUP15-DEC2020	FD	Carbazole	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-DUP15-DEC2020	FD	Dibenzofuran	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-DUP15-DEC2020	FD	Diethyl phthalate	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-DUP15-DEC2020	FD	Dimethyl phthalate	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-DUP15-DEC2020	FD	Di-n-butyl phthalate	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-DUP15-DEC2020	FD	di-n-Octyl phthalate	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-DUP15-DEC2020	FD	Hexachlorobenzene	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-DUP15-DEC2020	FD	Hexachlorobutadiene	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-DUP15-DEC2020	FD	Hexachlorocyclopentadiene	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-DUP15-DEC2020	FD	Hexachloroethane	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-DUP15-DEC2020	FD	Isophorone	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-DUP15-DEC2020	FD	Nitrobenzene	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-DUP15-DEC2020	FD	N-Nitrosodi-n-propylamine	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-DUP15-DEC2020	FD	N-Nitrosodiphenylamine	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-EB25-DEC2020	EB	1,2,4,5-Tetrachlorobenzene	13.0	9.70 U	9.70 X	9.70 U	
NHFLA-EB25-DEC2020	EB	1,4-Dioxane (p-Dioxane)	13.0	9.70 U	9.70 X	9.70 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB25-DEC2020	EB	2,2'-Oxybis(1-chloropropane)	13.0	9.70 U	9.70 X	9.70 U	
NHFLA-EB25-DEC2020	EB	2,4-Dinitrotoluene	13.0	9.70 U	9.70 X	9.70 U	
NHFLA-EB25-DEC2020	EB	2,6-Dinitrotoluene	13.0	9.70 U	9.70 X	9.70 U	
NHFLA-EB25-DEC2020	EB	2-Chloronaphthalene	13.0	9.70 U	9.70 X	9.70 U	
NHFLA-EB25-DEC2020	EB	2-Nitroaniline	32.0	24.0 U	24.0 X	24.0 U	
NHFLA-EB25-DEC2020	EB	3,3'-Dichlorobenzidine	13.0	9.70 U	9.70 X	9.70 U	
NHFLA-EB25-DEC2020	EB	3-Nitroaniline	32.0	24.0 U	24.0 X	24.0 U	
NHFLA-EB25-DEC2020	EB	4-Bromophenyl phenyl ether	13.0	9.70 U	9.70 X	9.70 U	
NHFLA-EB25-DEC2020	EB	4-Chloroaniline	13.0	9.70 U	9.70 X	9.70 U	
NHFLA-EB25-DEC2020	EB	4-Chlorophenyl phenyl ether	13.0	9.70 U	9.70 X	9.70 U	
NHFLA-EB25-DEC2020	EB	4-Nitroaniline	32.0	24.0 U	24.0 X	24.0 U	
NHFLA-EB25-DEC2020	EB	Acetophenone	13.0	9.70 U	9.70 X	9.70 U	
NHFLA-EB25-DEC2020	EB	Atrazine	13.0	9.70 U	9.70 X	9.70 U	
NHFLA-EB25-DEC2020	EB	Benzaldehyde	13.0	9.70 UL	9.70 X	9.70 U	
NHFLA-EB25-DEC2020	EB	Benzyl butyl phthalate	13.0	9.70 U	9.70 X	9.70 U	
NHFLA-EB25-DEC2020	EB	Biphenyl (Diphenyl)	13.0	9.70 U	9.70 X	9.70 U	
NHFLA-EB25-DEC2020	EB	Bis(2-chloroethoxy)methane	13.0	9.70 U	9.70 X	9.70 U	
NHFLA-EB25-DEC2020	EB	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	13.0	9.70 U	9.70 X	9.70 U	
NHFLA-EB25-DEC2020	EB	Bis(2-ethylhexyl)phthalate	13.0	9.70 U	9.70 X	9.70 U	
NHFLA-EB25-DEC2020	EB	Caprolactam	13.0	9.70 U	9.70 X	9.70 U	
NHFLA-EB25-DEC2020	EB	Carbazole	13.0	9.70 U	9.70 X	9.70 U	
NHFLA-EB25-DEC2020	EB	Dibenzofuran	13.0	9.70 U	9.70 X	9.70 U	
NHFLA-EB25-DEC2020	EB	Diethyl phthalate	13.0	9.70 U	9.70 X	9.70 U	
NHFLA-EB25-DEC2020	EB	Dimethyl phthalate	13.0	9.70 U	9.70 X	9.70 U	
NHFLA-EB25-DEC2020	EB	Di-n-butyl phthalate	13.0	9.70 U	9.70 X	9.70 U	
NHFLA-EB25-DEC2020	EB	di-n-Octyl phthalate	13.0	9.70 U	9.70 X	9.70 U	
NHFLA-EB25-DEC2020	EB	Hexachlorobenzene	13.0	9.70 U	9.70 X	9.70 U	
NHFLA-EB25-DEC2020	EB	Hexachlorobutadiene	13.0	9.70 U	9.70 X	9.70 U	
NHFLA-EB25-DEC2020	EB	Hexachlorocyclopentadiene	13.0	9.70 U	9.70 X	9.70 U	
NHFLA-EB25-DEC2020	EB	Hexachloroethane	13.0	9.70 U	9.70 X	9.70 U	
NHFLA-EB25-DEC2020	EB	Isophorone	13.0	9.70 U	9.70 X	9.70 U	
NHFLA-EB25-DEC2020	EB	Nitrobenzene	13.0	9.70 U	9.70 X	9.70 U	
NHFLA-EB25-DEC2020	EB	N-Nitrosodi-n-propylamine	13.0	9.70 U	9.70 X	9.70 U	
NHFLA-EB25-DEC2020	EB	N-Nitrosodiphenylamine	13.0	9.70 U	9.70 X	9.70 U	
NHFLA-MW15-DEC2020	N	1,2,4,5-Tetrachlorobenzene	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW15-DEC2020	N	1,4-Dioxane (p-Dioxane)	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW15-DEC2020	N	2,2'-Oxybis(1-chloropropane)	9.50	7.10 U	7.10 X	7.10 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW15-DEC2020	N	2,4-Dinitrotoluene	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW15-DEC2020	N	2,6-Dinitrotoluene	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW15-DEC2020	N	2-Chloronaphthalene	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW15-DEC2020	N	2-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	
NHFLA-MW15-DEC2020	N	3,3'-Dichlorobenzidine	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW15-DEC2020	N	3-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	
NHFLA-MW15-DEC2020	N	4-Bromophenyl phenyl ether	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW15-DEC2020	N	4-Chloroaniline	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW15-DEC2020	N	4-Chlorophenyl phenyl ether	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW15-DEC2020	N	4-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	
NHFLA-MW15-DEC2020	N	Acetophenone	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW15-DEC2020	N	Atrazine	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW15-DEC2020	N	Benzaldehyde	9.50	7.10 UL	7.10 X	7.10 U	
NHFLA-MW15-DEC2020	N	Benzyl butyl phthalate	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW15-DEC2020	N	Biphenyl (Diphenyl)	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW15-DEC2020	N	Bis(2-chloroethoxy)methane	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW15-DEC2020	N	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW15-DEC2020	N	Bis(2-ethylhexyl)phthalate	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW15-DEC2020	N	Caprolactam	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW15-DEC2020	N	Carbazole	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW15-DEC2020	N	Dibenzofuran	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW15-DEC2020	N	Diethyl phthalate	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW15-DEC2020	N	Dimethyl phthalate	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW15-DEC2020	N	Di-n-butyl phthalate	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW15-DEC2020	N	di-n-Octyl phthalate	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW15-DEC2020	N	Hexachlorobenzene	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW15-DEC2020	N	Hexachlorobutadiene	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW15-DEC2020	N	Hexachlorocyclopentadiene	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW15-DEC2020	N	Hexachloroethane	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW15-DEC2020	N	Isophorone	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW15-DEC2020	N	Nitrobenzene	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW15-DEC2020	N	N-Nitrosodi-n-propylamine	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW15-DEC2020	N	N-Nitrosodiphenylamine	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7BR-DEC2020	N	1,2,4,5-Tetrachlorobenzene	10.0	7.50 U	7.50 X	7.50 U	
NHFLA-MW7BR-DEC2020	N	1,4-Dioxane (p-Dioxane)	10.0	7.50 U	7.50 X	7.50 U	
NHFLA-MW7BR-DEC2020	N	2,2'-Oxybis(1-chloropropane)	10.0	7.50 U	7.50 X	7.50 U	
NHFLA-MW7BR-DEC2020	N	2,4-Dinitrotoluene	10.0	7.50 U	7.50 X	7.50 U	
NHFLA-MW7BR-DEC2020	N	2,6-Dinitrotoluene	10.0	7.50 U	7.50 X	7.50 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW7BR-DEC2020	N	2-Chloronaphthalene	10.0	7.50 U	7.50 X	7.50 U	
NHFLA-MW7BR-DEC2020	N	2-Nitroaniline	25.0	19.0 U	19.0 X	19.0 U	
NHFLA-MW7BR-DEC2020	N	3,3'-Dichlorobenzidine	10.0	7.50 U	7.50 X	7.50 U	
NHFLA-MW7BR-DEC2020	N	3-Nitroaniline	25.0	19.0 U	19.0 X	19.0 U	
NHFLA-MW7BR-DEC2020	N	4-Bromophenyl phenyl ether	10.0	7.50 U	7.50 X	7.50 U	
NHFLA-MW7BR-DEC2020	N	4-Chloroaniline	10.0	7.50 U	7.50 X	7.50 U	
NHFLA-MW7BR-DEC2020	N	4-Chlorophenyl phenyl ether	10.0	7.50 U	7.50 X	7.50 U	
NHFLA-MW7BR-DEC2020	N	4-Nitroaniline	25.0	19.0 U	19.0 X	19.0 U	
NHFLA-MW7BR-DEC2020	N	Acetophenone	10.0	7.50 U	7.50 X	7.50 U	
NHFLA-MW7BR-DEC2020	N	Atrazine	10.0	7.50 U	7.50 X	7.50 U	
NHFLA-MW7BR-DEC2020	N	Benzaldehyde	10.0	7.50 UL	7.50 X	7.50 U	
NHFLA-MW7BR-DEC2020	N	Benzyl butyl phthalate	10.0	7.50 U	7.50 X	7.50 U	
NHFLA-MW7BR-DEC2020	N	Biphenyl (Diphenyl)	10.0	7.50 U	7.50 X	7.50 U	
NHFLA-MW7BR-DEC2020	N	Bis(2-chloroethoxy)methane	10.0	7.50 U	7.50 X	7.50 U	
NHFLA-MW7BR-DEC2020	N	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	10.0	7.50 U	7.50 X	7.50 U	
NHFLA-MW7BR-DEC2020	N	Bis(2-ethylhexyl)phthalate	10.0	7.50 U	7.50 X	7.50 U	
NHFLA-MW7BR-DEC2020	N	Caprolactam	10.0	7.50 U	7.50 X	7.50 U	
NHFLA-MW7BR-DEC2020	N	Carbazole	10.0	7.50 U	7.50 X	7.50 U	
NHFLA-MW7BR-DEC2020	N	Dibenzofuran	10.0	7.50 U	7.50 X	7.50 U	
NHFLA-MW7BR-DEC2020	N	Diethyl phthalate	10.0	7.50 U	7.50 X	7.50 U	
NHFLA-MW7BR-DEC2020	N	Dimethyl phthalate	10.0	7.50 U	7.50 X	7.50 U	
NHFLA-MW7BR-DEC2020	N	Di-n-butyl phthalate	10.0	7.50 U	7.50 X	7.50 U	
NHFLA-MW7BR-DEC2020	N	di-n-Octyl phthalate	10.0	7.50 U	7.50 X	7.50 U	
NHFLA-MW7BR-DEC2020	N	Hexachlorobenzene	10.0	7.50 U	7.50 X	7.50 U	
NHFLA-MW7BR-DEC2020	N	Hexachlorobutadiene	10.0	7.50 U	7.50 X	7.50 U	
NHFLA-MW7BR-DEC2020	N	Hexachlorocyclopentadiene	10.0	7.50 U	7.50 X	7.50 U	
NHFLA-MW7BR-DEC2020	N	Hexachloroethane	10.0	7.50 U	7.50 X	7.50 U	
NHFLA-MW7BR-DEC2020	N	Isophorone	10.0	7.50 U	7.50 X	7.50 U	
NHFLA-MW7BR-DEC2020	N	Nitrobenzene	10.0	7.50 U	7.50 X	7.50 U	
NHFLA-MW7BR-DEC2020	N	N-Nitrosodi-n-propylamine	10.0	7.50 U	7.50 X	7.50 U	
NHFLA-MW7BR-DEC2020	N	N-Nitrosodiphenylamine	10.0	7.50 U	7.50 X	7.50 U	
NHFLA-MW7OB-DEC2020	N	1,2,4,5-Tetrachlorobenzene	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	1,4-Dioxane (p-Dioxane)	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	2,2'-Oxybis(1-chloropropane)	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	2,4-Dinitrotoluene	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	2,6-Dinitrotoluene	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	2-Chloronaphthalene	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	2-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW7OB-DEC2020	N	3,3'-Dichlorobenzidine	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	3-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	
NHFLA-MW7OB-DEC2020	N	4-Bromophenyl phenyl ether	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	4-Chloroaniline	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	4-Chlorophenyl phenyl ether	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	4-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	
NHFLA-MW7OB-DEC2020	N	Acetophenone	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	Atrazine	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	Benzaldehyde	9.50	7.10 UL	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	Benzyl butyl phthalate	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	Biphenyl (Diphenyl)	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	Bis(2-chloroethoxy)methane	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	Bis(2-ethylhexyl)phthalate	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	Caprolactam	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	Carbazole	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	Dibenzofuran	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	Diethyl phthalate	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	Dimethyl phthalate	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	Di-n-butyl phthalate	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	di-n-Octyl phthalate	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	Hexachlorobenzene	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	Hexachlorobutadiene	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	Hexachlorocyclopentadiene	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	Hexachloroethane	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	Isophorone	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	Nitrobenzene	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	N-Nitrosodi-n-propylamine	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW7OB-DEC2020	N	N-Nitrosodiphenylamine	9.50	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	1,2,4,5-Tetrachlorobenzene	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	1,4-Dioxane (p-Dioxane)	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	2,2'-Oxybis(1-chloropropane)	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	2,4-Dinitrotoluene	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	2,6-Dinitrotoluene	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	2-Chloronaphthalene	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	2-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	
NHFLA-MW8-DEC2020	N	3,3'-Dichlorobenzidine	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	3-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW8-DEC2020	N	4-Bromophenyl phenyl ether	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	4-Chloroaniline	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	4-Chlorophenyl phenyl ether	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	4-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	
NHFLA-MW8-DEC2020	N	Acetophenone	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	Atrazine	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	Benzaldehyde	9.40	7.10 UL	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	Benzyl butyl phthalate	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	Biphenyl (Diphenyl)	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	Bis(2-chloroethoxy)methane	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	Bis(2-ethylhexyl)phthalate	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	Caprolactam	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	Carbazole	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	Dibenzofuran	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	Diethyl phthalate	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	Dimethyl phthalate	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	Di-n-butyl phthalate	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	di-n-Octyl phthalate	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	Hexachlorobenzene	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	Hexachlorobutadiene	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	Hexachlorocyclopentadiene	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	Hexachloroethane	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	Isophorone	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	Nitrobenzene	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	N-Nitrosodi-n-propylamine	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW8-DEC2020	N	N-Nitrosodiphenylamine	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW9BR-DEC2020	N	1,2,4,5-Tetrachlorobenzene	10.0	7.90 U	7.90 X	7.90 U	
NHFLA-MW9BR-DEC2020	N	1,4-Dioxane (p-Dioxane)	10.0	7.90 U	7.90 X	7.90 U	
NHFLA-MW9BR-DEC2020	N	2,2'-Oxybis(1-chloropropane)	10.0	7.90 U	7.90 X	7.90 U	
NHFLA-MW9BR-DEC2020	N	2,4-Dinitrotoluene	10.0	7.90 U	7.90 X	7.90 U	
NHFLA-MW9BR-DEC2020	N	2,6-Dinitrotoluene	10.0	7.90 U	7.90 X	7.90 U	
NHFLA-MW9BR-DEC2020	N	2-Chloronaphthalene	10.0	7.90 U	7.90 X	7.90 U	
NHFLA-MW9BR-DEC2020	N	2-Nitroaniline	26.0	20.0 U	20.0 X	20.0 U	
NHFLA-MW9BR-DEC2020	N	3,3'-Dichlorobenzidine	10.0	7.90 U	7.90 X	7.90 U	
NHFLA-MW9BR-DEC2020	N	3-Nitroaniline	26.0	20.0 U	20.0 X	20.0 U	
NHFLA-MW9BR-DEC2020	N	4-Bromophenyl phenyl ether	10.0	7.90 U	7.90 X	7.90 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW9BR-DEC2020	N	4-Chloroaniline	10.0	7.90 U	7.90 X	7.90 U	
NHFLA-MW9BR-DEC2020	N	4-Chlorophenyl phenyl ether	10.0	7.90 U	7.90 X	7.90 U	
NHFLA-MW9BR-DEC2020	N	4-Nitroaniline	26.0	20.0 U	20.0 X	20.0 U	
NHFLA-MW9BR-DEC2020	N	Acetophenone	10.0	7.90 U	7.90 X	7.90 U	
NHFLA-MW9BR-DEC2020	N	Atrazine	10.0	7.90 U	7.90 X	7.90 U	
NHFLA-MW9BR-DEC2020	N	Benzaldehyde	10.0	7.90 UL	7.90 X	7.90 U	
NHFLA-MW9BR-DEC2020	N	Benzyl butyl phthalate	10.0	7.90 U	7.90 X	7.90 U	
NHFLA-MW9BR-DEC2020	N	Biphenyl (Diphenyl)	10.0	7.90 U	7.90 X	7.90 U	
NHFLA-MW9BR-DEC2020	N	Bis(2-chloroethoxy)methane	10.0	7.90 U	7.90 X	7.90 U	
NHFLA-MW9BR-DEC2020	N	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	10.0	7.90 U	7.90 X	7.90 U	
NHFLA-MW9BR-DEC2020	N	Bis(2-ethylhexyl)phthalate	10.0	7.90 U	7.90 X	7.90 U	
NHFLA-MW9BR-DEC2020	N	Caprolactam	10.0	7.90 U	7.90 X	7.90 U	
NHFLA-MW9BR-DEC2020	N	Carbazole	10.0	7.90 U	7.90 X	7.90 U	
NHFLA-MW9BR-DEC2020	N	Dibenzofuran	10.0	7.90 U	7.90 X	7.90 U	
NHFLA-MW9BR-DEC2020	N	Diethyl phthalate	10.0	7.90 U	7.90 X	7.90 U	
NHFLA-MW9BR-DEC2020	N	Dimethyl phthalate	10.0	7.90 U	7.90 X	7.90 U	
NHFLA-MW9BR-DEC2020	N	Di-n-butyl phthalate	10.0	7.90 U	7.90 X	7.90 U	
NHFLA-MW9BR-DEC2020	N	di-n-Octyl phthalate	10.0	7.90 U	7.90 X	7.90 U	
NHFLA-MW9BR-DEC2020	N	Hexachlorobenzene	10.0	7.90 U	7.90 X	7.90 U	
NHFLA-MW9BR-DEC2020	N	Hexachlorobutadiene	10.0	7.90 U	7.90 X	7.90 U	
NHFLA-MW9BR-DEC2020	N	Hexachlorocyclopentadiene	10.0	7.90 U	7.90 X	7.90 U	
NHFLA-MW9BR-DEC2020	N	Hexachloroethane	10.0	7.90 U	7.90 X	7.90 U	
NHFLA-MW9BR-DEC2020	N	Isophorone	10.0	7.90 U	7.90 X	7.90 U	
NHFLA-MW9BR-DEC2020	N	Nitrobenzene	10.0	7.90 U	7.90 X	7.90 U	
NHFLA-MW9BR-DEC2020	N	N-Nitrosodi-n-propylamine	10.0	7.90 U	7.90 X	7.90 U	
NHFLA-MW9BR-DEC2020	N	N-Nitrosodiphenylamine	10.0	7.90 U	7.90 X	7.90 U	
NHFLA-MW9OB-DEC2020	N	1,2,4,5-Tetrachlorobenzene	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW9OB-DEC2020	N	1,4-Dioxane (p-Dioxane)	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW9OB-DEC2020	N	2,2'-Oxybis(1-chloropropane)	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW9OB-DEC2020	N	2,4-Dinitrotoluene	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW9OB-DEC2020	N	2,6-Dinitrotoluene	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW9OB-DEC2020	N	2-Chloronaphthalene	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW9OB-DEC2020	N	2-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	
NHFLA-MW9OB-DEC2020	N	3,3'-Dichlorobenzidine	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW9OB-DEC2020	N	3-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	
NHFLA-MW9OB-DEC2020	N	4-Bromophenyl phenyl ether	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW9OB-DEC2020	N	4-Chloroaniline	9.40	7.10 U	7.10 X	7.10 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270							
FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW9OB-DEC2020	N	4-Chlorophenyl phenyl ether	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW9OB-DEC2020	N	4-Nitroaniline	24.0	18.0 U	18.0 X	18.0 U	
NHFLA-MW9OB-DEC2020	N	Acetophenone	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW9OB-DEC2020	N	Atrazine	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW9OB-DEC2020	N	Benzaldehyde	9.40	7.10 UL	7.10 X	7.10 U	
NHFLA-MW9OB-DEC2020	N	Benzyl butyl phthalate	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW9OB-DEC2020	N	Biphenyl (Diphenyl)	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW9OB-DEC2020	N	Bis(2-chloroethoxy)methane	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW9OB-DEC2020	N	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW9OB-DEC2020	N	Bis(2-ethylhexyl)phthalate	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW9OB-DEC2020	N	Caprolactam	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW9OB-DEC2020	N	Carbazole	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW9OB-DEC2020	N	Dibenzofuran	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW9OB-DEC2020	N	Diethyl phthalate	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW9OB-DEC2020	N	Dimethyl phthalate	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW9OB-DEC2020	N	Di-n-butyl phthalate	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW9OB-DEC2020	N	di-n-Octyl phthalate	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW9OB-DEC2020	N	Hexachlorobenzene	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW9OB-DEC2020	N	Hexachlorobutadiene	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW9OB-DEC2020	N	Hexachlorocyclopentadiene	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW9OB-DEC2020	N	Hexachloroethane	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW9OB-DEC2020	N	Isophorone	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW9OB-DEC2020	N	Nitrobenzene	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW9OB-DEC2020	N	N-Nitrosodi-n-propylamine	9.40	7.10 U	7.10 X	7.10 U	
NHFLA-MW9OB-DEC2020	N	N-Nitrosodiphenylamine	9.40	7.10 U	7.10 X	7.10 U	

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - December Groundwater Sampling
Field Duplicates for SDG: TN0335

Location	Analysis
NHFLA-MW7OB	A2340B

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Hardness (as CaCO3)	14500	14400	650	0.692	35	OK	NA

Location	Analysis
NHFLA-MW7OB	BNASIM

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	2-Methylnaphthalene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Acenaphthene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Acenaphthylene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Anthracene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Benzo(a)anthracene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Benzo(a)pyrene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Benzo(b)fluoranthene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Benzo(g,h,i)perylene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Benzo(k)fluoranthene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Chrysene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Dibenz(a,h)anthracene	ND	ND	0.190	NA	35	NA	OK

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Field Duplicate Report By SDG

C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - December Groundwater Sampling
Field Duplicates for SDG: TN0335

Location	Analysis
NHFLA-MW7OB	BNASIM

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Fluoranthene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Fluorene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Indeno(1,2,3-c,d)pyrene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Naphthalene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Phenanthrene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Pyrene	0.0690	0.0610	0.190	12.3	35	NA	OK

Location	Analysis
NHFLA-MW7OB	SW6020

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Aluminum	ND	130	100	NA	35	NA	130
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-11 / TN0335-17	Aluminum (DSSVLD)	125	ND	100	NA	35	NA	125
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Antimony	0.230	0.130	1.00	55.6	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-11 / TN0335-17	Antimony (DSSVLD)	0.130	0.120	1.00	8.00	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Arsenic	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-11 / TN0335-17	Arsenic (DSSVLD)	ND	ND	5.00	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - December Groundwater Sampling
Field Duplicates for SDG: TN0335

Location	Analysis
NHFLA-MW7OB	SW6020

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Barium	20.9	25.1	2.00	18.3	35	OK	NA
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-11 / TN0335-17	Barium (DSSVLD)	23.5	20.8	2.00	12.2	35	OK	NA
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Beryllium	0.0420	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-11 / TN0335-17	Beryllium (DSSVLD)	0.0460	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Cadmium	0.0470	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-11 / TN0335-17	Cadmium (DSSVLD)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Calcium	4680	4590	100	1.94	35	OK	NA
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-11 / TN0335-17	Calcium (DSSVLD)	4850	4540	100	6.60	35	OK	NA
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Chromium	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-11 / TN0335-17	Chromium (DSSVLD)	0.780	2.53	5.00	106	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Cobalt	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-11 / TN0335-17	Cobalt (DSSVLD)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Copper	ND	ND	3.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-11 / TN0335-17	Copper (DSSVLD)	ND	ND	3.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Iron	100	173	100	53.5	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - December Groundwater Sampling
Field Duplicates for SDG: TN0335

Location	Analysis
NHFLA-MW7OB	SW6020

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-11 / TN0335-17	Iron (DSSVLD)	174	120	100	36.7	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Lead	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-11 / TN0335-17	Lead (DSSVLD)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Magnesium	690	714	100	3.42	35	OK	NA
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-11 / TN0335-17	Magnesium (DSSVLD)	672	673	100	0.149	35	OK	NA
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Manganese	22.9	24.4	2.00	6.34	35	OK	NA
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-11 / TN0335-17	Manganese (DSSVLD)	22.5	23.3	2.00	3.49	35	OK	NA
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Nickel	ND	ND	2.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-11 / TN0335-17	Nickel (DSSVLD)	0.540	0.410	2.00	27.4	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Potassium	1500	1540	1000	2.63	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-11 / TN0335-17	Potassium (DSSVLD)	1480	1490	1000	0.673	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Selenium	0.420	0.290	5.00	36.6	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-11 / TN0335-17	Selenium (DSSVLD)	0.440	0.290	5.00	41.1	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Silver	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-11 / TN0335-17	Silver (DSSVLD)	ND	ND	1.00	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - December Groundwater Sampling
Field Duplicates for SDG: TN0335

Location	Analysis
NHFLA-MW7OB	SW6020

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Sodium	133000	133000	1000	0.00	35	OK	NA
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-11 / TN0335-17	Sodium (DSSVLD)	129000	130000	1000	0.772	35	OK	NA
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Thallium	0.0760	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-11 / TN0335-17	Thallium (DSSVLD)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Vanadium	1.30	1.50	5.00	14.3	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-11 / TN0335-17	Vanadium (DSSVLD)	1.50	1.40	5.00	6.90	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Zinc	ND	ND	10.0	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-11 / TN0335-17	Zinc (DSSVLD)	ND	ND	10.0	NA	35	NA	OK

Location	Analysis
NHFLA-MW7OB	SW7196

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Chromium, Hexavalent	0.00120	0.00170	0.0250	34.5	35	NA	OK

FD = Field Duplicate
RL = Reporting Limit
RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - December Groundwater Sampling
Field Duplicates for SDG: TN0335

Location	Analysis
NHFLA-MW7OB	SW7470

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Mercury	ND	ND	0.200	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-11 / TN0335-17	Mercury (DSSVLD)	ND	ND	0.200	NA	35	NA	OK

Location	Analysis
NHFLA-MW7OB	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	1,1,1-Trichloroethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	1,1,2,2-Tetrachloroethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	1,1,2-Trichloroethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	1,1-Dichloroethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	1,1-Dichloroethene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	1,2,3-Trichlorobenzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	1,2,4-Trichlorobenzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	1,2-Dibromo-3-chloropropane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	1,2-Dibromoethane (EDB)	ND	ND	1.00	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - December Groundwater Sampling
Field Duplicates for SDG: TN0335

Location	Analysis
NHFLA-MW7OB	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	1,2-Dichlorobenzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	1,2-Dichloroethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	1,2-Dichloropropane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	1,3-Dichlorobenzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	1,4-Dichlorobenzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	2-Butanone (MEK)	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	2-Hexanone	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	4-Methyl-2-pentanone (MIBK)	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Acetone	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Benzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Bromochloromethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Bromodichloromethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Bromoform	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Bromomethane	ND	ND	2.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Carbon disulfide	ND	ND	1.00	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - December Groundwater Sampling
Field Duplicates for SDG: TN0335

Location	Analysis
NHFLA-MW7OB	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Carbon tetrachloride	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Chlorobenzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Chloroethane	ND	ND	2.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Chloroform	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Chloromethane	ND	ND	2.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	cis-1,2-Dichloroethene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	cis-1,3-Dichloropropene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Cyclohexane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Dibromochloromethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Dichlorodifluoromethane	ND	ND	2.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Ethylbenzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Isopropylbenzene (Cumene)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	m,p-Xylene	ND	ND	2.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Methyl acetate	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Methyl tert-butyl ether (MTBE)	ND	ND	1.00	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - December Groundwater Sampling
Field Duplicates for SDG: TN0335

Location	Analysis
NHFLA-MW7OB	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Methylcyclohexane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Methylene chloride	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	o-Xylene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Styrene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Tetrachloroethene (PCE)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Toluene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	trans-1,2-Dichloroethene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	trans-1,3-Dichloropropene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Trichloroethene (TCE)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Trichlorofluoromethane	ND	ND	2.00	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Vinyl chloride	ND	ND	2.00	NA	35	NA	OK

Location	Analysis
NHFLA-MW7OB	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	1,2,4,5-Tetrachlorobenzene	ND	ND	9.50	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - December Groundwater Sampling
Field Duplicates for SDG: TN0335

Location	Analysis
NHFLA-MW7OB	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	1,4-Dioxane (p-Dioxane)	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	2,2'-Oxybis(1-chloropropane)	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	2,3,4,6-Tetrachlorophenol	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	2,4,5-Trichlorophenol	ND	ND	24.0	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	2,4,6-Trichlorophenol	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	2,4-Dichlorophenol	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	2,4-Dimethylphenol	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	2,4-Dinitrophenol	ND	ND	24.0	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	2,4-Dinitrotoluene	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	2,6-Dinitrotoluene	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	2-Chloronaphthalene	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	2-Chlorophenol	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	2-Methylphenol (o-Cresol)	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	2-Nitroaniline	ND	ND	24.0	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	2-Nitrophenol	ND	ND	9.50	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - December Groundwater Sampling
Field Duplicates for SDG: TN0335

Location	Analysis
NHFLA-MW7OB	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	3,3'-Dichlorobenzidine	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	3-Nitroaniline	ND	ND	24.0	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	4,6-Dinitro-2-methylphenol	ND	ND	24.0	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	4-Bromophenyl phenyl ether	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	4-Chloro-3-methylphenol	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	4-Chloroaniline	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	4-Chlorophenyl phenyl ether	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	4-Nitroaniline	ND	ND	24.0	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	4-Nitrophenol	ND	ND	24.0	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Acetophenone	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Atrazine	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Benzaldehyde	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Benzyl butyl phthalate	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Biphenyl (Diphenyl)	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Bis(2-chloroethoxy)methane	ND	ND	9.50	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - December Groundwater Sampling
Field Duplicates for SDG: TN0335

Location	Analysis
NHFLA-MW7OB	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Bis(2-ethylhexyl)phthalate	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Caprolactam	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Carbazole	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Cresols, m- & p-	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Di-n-butyl phthalate	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	di-n-Octyl phthalate	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Dibenzofuran	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Diethyl phthalate	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Dimethyl phthalate	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Hexachlorobenzene	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Hexachlorobutadiene	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Hexachlorocyclopentadiene	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Hexachloroethane	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Isophorone	ND	ND	9.50	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - December Groundwater Sampling
Field Duplicates for SDG: TN0335

Location	Analysis
NHFLA-MW7OB	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	N-Nitrosodi-n-propylamine	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	N-Nitrosodiphenylamine	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Nitrobenzene	ND	ND	9.50	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Pentachlorophenol	ND	ND	24.0	NA	35	NA	OK
NHFLA-MW7OB-DEC2020 / NHFLA-DUP14-DEC2020	TN0335-1 / TN0335-7	Phenol	ND	ND	9.50	NA	35	NA	OK

Location	Analysis
NHFLA-MW9OB	A2340B

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Hardness (as CaCO3)	255000	267000	650	4.60	35	OK	NA

Location	Analysis
NHFLA-MW9OB	BNASIM

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	2-Methylnaphthalene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Acenaphthene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Acenaphthylene	ND	ND	0.190	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - December Groundwater Sampling
Field Duplicates for SDG: TN0335

Location	Analysis
NHFLA-MW9OB	BNASIM

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Anthracene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Benzo(a)anthracene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Benzo(a)pyrene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Benzo(b)fluoranthene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Benzo(g,h,i)perylene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Benzo(k)fluoranthene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Chrysene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Dibenz(a,h)anthracene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Fluoranthene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Fluorene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Indeno(1,2,3-c,d)pyrene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Naphthalene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Phenanthrene	ND	ND	0.190	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Pyrene	ND	ND	0.190	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - December Groundwater Sampling
Field Duplicates for SDG: TN0335

Location	Analysis
NHFLA-MW9OB	SW6020

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Aluminum	ND	ND	100	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-13 / TN0335-18	Aluminum (DSSVLD)	ND	ND	100	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Antimony	0.100	0.0950	1.00	5.13	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-13 / TN0335-18	Antimony (DSSVLD)	0.0930	0.0860	1.00	7.82	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Arsenic	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-13 / TN0335-18	Arsenic (DSSVLD)	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Barium	20.2	20.8	2.00	2.93	35	OK	NA
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-13 / TN0335-18	Barium (DSSVLD)	21.5	20.0	2.00	7.23	35	OK	NA
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Beryllium	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-13 / TN0335-18	Beryllium (DSSVLD)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Cadmium	0.0480	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-13 / TN0335-18	Cadmium (DSSVLD)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Calcium	72700	76700	100	5.35	35	OK	NA
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-13 / TN0335-18	Calcium (DSSVLD)	77600	78900	100	1.66	35	OK	NA
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Chromium	ND	ND	5.00	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - December Groundwater Sampling
Field Duplicates for SDG: TN0335

Location	Analysis
NHFLA-MW9OB	SW6020

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-13 / TN0335-18	Chromium (DSSVLD)	0.360	0.370	5.00	2.74	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Cobalt	1.62	1.94	1.00	18.0	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-13 / TN0335-18	Cobalt (DSSVLD)	1.54	1.51	1.00	1.97	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Copper	ND	ND	3.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-13 / TN0335-18	Copper (DSSVLD)	ND	ND	3.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Iron	1160	1340	100	14.4	35	OK	NA
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-13 / TN0335-18	Iron (DSSVLD)	990	907	100	8.75	35	OK	NA
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Lead	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-13 / TN0335-18	Lead (DSSVLD)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Magnesium	17800	18200	100	2.22	35	OK	NA
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-13 / TN0335-18	Magnesium (DSSVLD)	17800	17100	100	4.01	35	OK	NA
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Manganese	789	820	2.00	3.85	35	OK	NA
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-13 / TN0335-18	Manganese (DSSVLD)	774	745	2.00	3.82	35	OK	NA
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Nickel	ND	2.01	2.00	NA	35	NA	2.0
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-13 / TN0335-18	Nickel (DSSVLD)	1.94	2.16	2.00	10.7	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - December Groundwater Sampling
Field Duplicates for SDG: TN0335

Location	Analysis
NHFLA-MW9OB	SW6020

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Potassium	4590	4780	1000	4.06	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-13 / TN0335-18	Potassium (DSSVLD)	4390	4320	1000	1.61	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Selenium	0.270	0.210	5.00	25.0	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-13 / TN0335-18	Selenium (DSSVLD)	0.240	0.210	5.00	13.3	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Silver	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-13 / TN0335-18	Silver (DSSVLD)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Sodium	326000	339000	1000	3.91	35	OK	NA
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-13 / TN0335-18	Sodium (DSSVLD)	321000	310000	1000	3.49	35	OK	NA
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Thallium	0.150	0.130	1.00	14.3	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-13 / TN0335-18	Thallium (DSSVLD)	0.140	0.150	1.00	6.90	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Vanadium	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-13 / TN0335-18	Vanadium (DSSVLD)	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Zinc	ND	14.0	10.0	NA	35	NA	14.0
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-13 / TN0335-18	Zinc (DSSVLD)	ND	ND	10.0	NA	35	NA	OK

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Field Duplicate Report By SDG

C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - December Groundwater Sampling
Field Duplicates for SDG: TN0335

Location	Analysis
NHFLA-MW9OB	SW7196

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Chromium, Hexavalent	0.00190	0.00270	0.0250	34.8	35	NA	OK

Location	Analysis
NHFLA-MW9OB	SW7470

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Mercury	ND	ND	0.200	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-13 / TN0335-18	Mercury (DSSVLD)	ND	ND	0.200	NA	35	NA	OK

Location	Analysis
NHFLA-MW9OB	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	1,1,1-Trichloroethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	1,1,2,2-Tetrachloroethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	1,1,2-Trichloro-1,2,2-trifluoroethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	1,1,2-Trichloroethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	1,1-Dichloroethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	1,1-Dichloroethene	ND	ND	1.00	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - December Groundwater Sampling
Field Duplicates for SDG: TN0335

Location	Analysis
NHFLA-MW9OB	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	1,2,3-Trichlorobenzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	1,2,4-Trichlorobenzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	1,2-Dibromo-3-chloropropane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	1,2-Dibromoethane (EDB)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	1,2-Dichlorobenzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	1,2-Dichloroethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	1,2-Dichloropropane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	1,3-Dichlorobenzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	1,4-Dichlorobenzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	2-Butanone (MEK)	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	2-Hexanone	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	4-Methyl-2-pentanone (MIBK)	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Acetone	ND	5.30	5.00	NA	35	NA	5.3
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Benzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Bromochloromethane	ND	ND	1.00	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - December Groundwater Sampling
Field Duplicates for SDG: TN0335

Location	Analysis
NHFLA-MW9OB	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Bromodichloromethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Bromoform	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Bromomethane	ND	ND	2.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Carbon disulfide	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Carbon tetrachloride	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Chlorobenzene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Chloroethane	ND	ND	2.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Chloroform	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Chloromethane	ND	ND	2.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	cis-1,2-Dichloroethene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	cis-1,3-Dichloropropene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Cyclohexane	ND	0.850	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Dibromochloromethane	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Dichlorodifluoromethane	ND	ND	2.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Ethylbenzene	ND	ND	1.00	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - December Groundwater Sampling
Field Duplicates for SDG: TN0335

Location	Analysis
NHFLA-MW9OB	SW8260

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Isopropylbenzene (Cumene)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	m,p-Xylene	ND	ND	2.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Methyl acetate	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Methyl tert-butyl ether (MTBE)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Methylcyclohexane	ND	2.50	1.00	NA	35	NA	2.5
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Methylene chloride	ND	ND	5.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	o-Xylene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Styrene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Tetrachloroethene (PCE)	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Toluene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	trans-1,2-Dichloroethene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	trans-1,3-Dichloropropene	ND	ND	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Trichloroethene (TCE)	ND	0.410	1.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Trichlorofluoromethane	ND	ND	2.00	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Vinyl chloride	ND	ND	2.00	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - December Groundwater Sampling
Field Duplicates for SDG: TN0335

Location	Analysis
NHFLA-MW9OB	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	1,2,4,5-Tetrachlorobenzene	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	1,4-Dioxane (p-Dioxane)	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	2,2'-Oxybis(1-chloropropane)	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	2,3,4,6-Tetrachlorophenol	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	2,4,5-Trichlorophenol	ND	ND	24.0	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	2,4,6-Trichlorophenol	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	2,4-Dichlorophenol	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	2,4-Dimethylphenol	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	2,4-Dinitrophenol	ND	ND	24.0	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	2,4-Dinitrotoluene	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	2,6-Dinitrotoluene	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	2-Chloronaphthalene	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	2-Chlorophenol	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	2-Methylphenol (o-Cresol)	ND	ND	9.40	NA	35	NA	OK

FD = Field Duplicate
RL = Reporting Limit
RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - December Groundwater Sampling
Field Duplicates for SDG: TN0335

Location	Analysis
NHFLA-MW9OB	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	2-Nitroaniline	ND	ND	24.0	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	2-Nitrophenol	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	3,3'-Dichlorobenzidine	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	3-Nitroaniline	ND	ND	24.0	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	4,6-Dinitro-2-methylphenol	ND	ND	24.0	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	4-Bromophenyl phenyl ether	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	4-Chloro-3-methylphenol	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	4-Chloroaniline	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	4-Chlorophenyl phenyl ether	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	4-Nitroaniline	ND	ND	24.0	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	4-Nitrophenol	ND	ND	24.0	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Acetophenone	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Atrazine	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Benzaldehyde	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Benzyl butyl phthalate	ND	ND	9.40	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - December Groundwater Sampling
Field Duplicates for SDG: TN0335

Location	Analysis
NHFLA-MW9OB	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Biphenyl (Diphenyl)	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Bis(2-chloroethoxy)methane	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Bis(2-ethylhexyl)phthalate	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Caprolactam	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Carbazole	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Cresols, m- & p-	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Di-n-butyl phthalate	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	di-n-Octyl phthalate	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Dibenzofuran	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Diethyl phthalate	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Dimethyl phthalate	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Hexachlorobenzene	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Hexachlorobutadiene	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Hexachlorocyclopentadiene	ND	ND	9.40	NA	35	NA	OK

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Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - December Groundwater Sampling
Field Duplicates for SDG: TN0335

Location	Analysis
NHFLA-MW9OB	SW8270

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Hexachloroethane	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Isophorone	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	N-Nitrosodi-n-propylamine	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	N-Nitrosodiphenylamine	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Nitrobenzene	ND	ND	9.40	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Pentachlorophenol	ND	ND	24.0	NA	35	NA	OK
NHFLA-MW9OB-DEC2020 / NHFLA-DUP15-DEC2020	TN0335-3 / TN0335-8	Phenol	ND	ND	9.40	NA	35	NA	OK

FD = Field Duplicate
RL = Reporting Limit
RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Rejected Results

Test Method: SW8270 Extraction Method: SW3510 Leach Method: NONE

FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-DUP14-DEC2020	TN0335-7	W	FD	2,3,4,6-Tetrachlorophenol	10.0	7.60 UL	7.60 X	ug/l	C/I
NHFLA-DUP14-DEC2020	TN0335-7	W	FD	2,4,5-Trichlorophenol	26.0	19.0 UL	19.0 X	ug/l	C/I
NHFLA-DUP14-DEC2020	TN0335-7	W	FD	2,4,6-Trichlorophenol	10.0	7.60 UL	7.60 X	ug/l	C/I
NHFLA-DUP14-DEC2020	TN0335-7	W	FD	2,4-Dichlorophenol	10.0	7.60 UL	7.60 X	ug/l	C/I
NHFLA-DUP14-DEC2020	TN0335-7	W	FD	2,4-Dimethylphenol	10.0	7.60 U	7.60 X	ug/l	I
NHFLA-DUP14-DEC2020	TN0335-7	W	FD	2,4-Dinitrophenol	26.0	19.0 UL	19.0 X	ug/l	C/I
NHFLA-DUP14-DEC2020	TN0335-7	W	FD	2-Chlorophenol	10.0	7.60 UL	7.60 X	ug/l	C/I
NHFLA-DUP14-DEC2020	TN0335-7	W	FD	2-Methylphenol (o-Cresol)	10.0	7.60 U	7.60 X	ug/l	C/I
NHFLA-DUP14-DEC2020	TN0335-7	W	FD	2-Nitrophenol	10.0	7.60 UL	7.60 X	ug/l	C/I
NHFLA-DUP14-DEC2020	TN0335-7	W	FD	4,6-Dinitro-2-methylphenol	26.0	19.0 UL	19.0 X	ug/l	C/I
NHFLA-DUP14-DEC2020	TN0335-7	W	FD	4-Chloro-3-methylphenol	10.0	7.60 UL	7.60 X	ug/l	C/I
NHFLA-DUP14-DEC2020	TN0335-7	W	FD	4-Nitrophenol	26.0	19.0 UL	19.0 X	ug/l	C/I
NHFLA-DUP14-DEC2020	TN0335-7	W	FD	Cresols, m- & p-	10.0	7.60 U	7.60 X	ug/l	C/I
NHFLA-DUP14-DEC2020	TN0335-7	W	FD	Pentachlorophenol	26.0	19.0 UL	19.0 X	ug/l	C/I
NHFLA-DUP14-DEC2020	TN0335-7	W	FD	Phenol	10.0	7.60 UL	7.60 X	ug/l	C/I
NHFLA-DUP15-DEC2020	TN0335-8	W	FD	2,3,4,6-Tetrachlorophenol	9.40	7.10 UL	7.10 X	ug/l	C/I
NHFLA-DUP15-DEC2020	TN0335-8	W	FD	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-DUP15-DEC2020	TN0335-8	W	FD	2,4,6-Trichlorophenol	9.40	7.10 UL	7.10 X	ug/l	C/I
NHFLA-DUP15-DEC2020	TN0335-8	W	FD	2,4-Dichlorophenol	9.40	7.10 UL	7.10 X	ug/l	C/I
NHFLA-DUP15-DEC2020	TN0335-8	W	FD	2,4-Dimethylphenol	9.40	7.10 U	7.10 X	ug/l	I
NHFLA-DUP15-DEC2020	TN0335-8	W	FD	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-DUP15-DEC2020	TN0335-8	W	FD	2-Chlorophenol	9.40	7.10 UL	7.10 X	ug/l	C/I
NHFLA-DUP15-DEC2020	TN0335-8	W	FD	2-Methylphenol (o-Cresol)	9.40	7.10 U	7.10 X	ug/l	C/I
NHFLA-DUP15-DEC2020	TN0335-8	W	FD	2-Nitrophenol	9.40	7.10 UL	7.10 X	ug/l	C/I
NHFLA-DUP15-DEC2020	TN0335-8	W	FD	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-DUP15-DEC2020	TN0335-8	W	FD	4-Chloro-3-methylphenol	9.40	7.10 UL	7.10 X	ug/l	C/I

Rejected Results

Test Method: SW8270	Extraction Method: SW3510	Leach Method: NONE							
FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-DUP15-DEC2020	TN0335-8	W	FD	4-Nitrophenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-DUP15-DEC2020	TN0335-8	W	FD	Cresols, m- & p-	9.40	7.10 U	7.10 X	ug/l	C/I
NHFLA-DUP15-DEC2020	TN0335-8	W	FD	Pentachlorophenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-DUP15-DEC2020	TN0335-8	W	FD	Phenol	9.40	7.10 UL	7.10 X	ug/l	C/I
NHFLA-EB25-DEC2020	TN0335-9	W	EB	2,3,4,6-Tetrachlorophenol	13.0	9.70 UL	9.70 X	ug/l	C/I
NHFLA-EB25-DEC2020	TN0335-9	W	EB	2,4,5-Trichlorophenol	32.0	24.0 UL	24.0 X	ug/l	C/I
NHFLA-EB25-DEC2020	TN0335-9	W	EB	2,4,6-Trichlorophenol	13.0	9.70 UL	9.70 X	ug/l	C/I
NHFLA-EB25-DEC2020	TN0335-9	W	EB	2,4-Dichlorophenol	13.0	9.70 UL	9.70 X	ug/l	C/I
NHFLA-EB25-DEC2020	TN0335-9	W	EB	2,4-Dimethylphenol	13.0	9.70 U	9.70 X	ug/l	I
NHFLA-EB25-DEC2020	TN0335-9	W	EB	2,4-Dinitrophenol	32.0	24.0 UL	24.0 X	ug/l	C/I
NHFLA-EB25-DEC2020	TN0335-9	W	EB	2-Chlorophenol	13.0	9.70 UL	9.70 X	ug/l	C/I
NHFLA-EB25-DEC2020	TN0335-9	W	EB	2-Methylphenol (o-Cresol)	13.0	9.70 U	9.70 X	ug/l	C/I
NHFLA-EB25-DEC2020	TN0335-9	W	EB	2-Nitrophenol	13.0	9.70 UL	9.70 X	ug/l	C/I
NHFLA-EB25-DEC2020	TN0335-9	W	EB	4,6-Dinitro-2-methylphenol	32.0	24.0 UL	24.0 X	ug/l	C/I
NHFLA-EB25-DEC2020	TN0335-9	W	EB	4-Chloro-3-methylphenol	13.0	9.70 UL	9.70 X	ug/l	C/I
NHFLA-EB25-DEC2020	TN0335-9	W	EB	4-Nitrophenol	32.0	24.0 UL	24.0 X	ug/l	C/I
NHFLA-EB25-DEC2020	TN0335-9	W	EB	Cresols, m- & p-	13.0	9.70 U	9.70 X	ug/l	C/I
NHFLA-EB25-DEC2020	TN0335-9	W	EB	Pentachlorophenol	32.0	24.0 UL	24.0 X	ug/l	C/I
NHFLA-EB25-DEC2020	TN0335-9	W	EB	Phenol	13.0	9.70 UL	9.70 X	ug/l	C/I
NHFLA-MW15-DEC2020	TN0335-6	W	N	2,3,4,6-Tetrachlorophenol	9.50	7.10 UL	7.10 X	ug/l	C/I
NHFLA-MW15-DEC2020	TN0335-6	W	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-MW15-DEC2020	TN0335-6	W	N	2,4,6-Trichlorophenol	9.50	7.10 UL	7.10 X	ug/l	C/I
NHFLA-MW15-DEC2020	TN0335-6	W	N	2,4-Dichlorophenol	9.50	7.10 UL	7.10 X	ug/l	C/I
NHFLA-MW15-DEC2020	TN0335-6	W	N	2,4-Dimethylphenol	9.50	7.10 U	7.10 X	ug/l	I
NHFLA-MW15-DEC2020	TN0335-6	W	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-MW15-DEC2020	TN0335-6	W	N	2-Chlorophenol	9.50	7.10 UL	7.10 X	ug/l	C/I
NHFLA-MW15-DEC2020	TN0335-6	W	N	2-Methylphenol (o-Cresol)	9.50	7.10 U	7.10 X	ug/l	C/I
NHFLA-MW15-DEC2020	TN0335-6	W	N	2-Nitrophenol	9.50	7.10 UL	7.10 X	ug/l	C/I

Rejected Results

Test Method: SW8270	Extraction Method: SW3510	Leach Method: NONE							
FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-MW15-DEC2020	TN0335-6	W	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-MW15-DEC2020	TN0335-6	W	N	4-Chloro-3-methylphenol	9.50	7.10 UL	7.10 X	ug/l	C/I
NHFLA-MW15-DEC2020	TN0335-6	W	N	4-Nitrophenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-MW15-DEC2020	TN0335-6	W	N	Cresols, m- & p-	9.50	7.10 U	7.10 X	ug/l	C/I
NHFLA-MW15-DEC2020	TN0335-6	W	N	Pentachlorophenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-MW15-DEC2020	TN0335-6	W	N	Phenol	9.50	7.10 UL	7.10 X	ug/l	C/I
NHFLA-MW7BR-DEC2020	TN0335-2	W	N	2,3,4,6-Tetrachlorophenol	10.0	7.50 UL	7.50 X	ug/l	C/I
NHFLA-MW7BR-DEC2020	TN0335-2	W	N	2,4,5-Trichlorophenol	25.0	19.0 UL	19.0 X	ug/l	C/I
NHFLA-MW7BR-DEC2020	TN0335-2	W	N	2,4,6-Trichlorophenol	10.0	7.50 UL	7.50 X	ug/l	C/I
NHFLA-MW7BR-DEC2020	TN0335-2	W	N	2,4-Dichlorophenol	10.0	7.50 UL	7.50 X	ug/l	C/I
NHFLA-MW7BR-DEC2020	TN0335-2	W	N	2,4-Dimethylphenol	10.0	7.50 U	7.50 X	ug/l	I
NHFLA-MW7BR-DEC2020	TN0335-2	W	N	2,4-Dinitrophenol	25.0	19.0 UL	19.0 X	ug/l	C/I
NHFLA-MW7BR-DEC2020	TN0335-2	W	N	2-Chlorophenol	10.0	7.50 UL	7.50 X	ug/l	C/I
NHFLA-MW7BR-DEC2020	TN0335-2	W	N	2-Methylphenol (o-Cresol)	10.0	7.50 U	7.50 X	ug/l	C/I
NHFLA-MW7BR-DEC2020	TN0335-2	W	N	2-Nitrophenol	10.0	7.50 UL	7.50 X	ug/l	C/I
NHFLA-MW7BR-DEC2020	TN0335-2	W	N	4,6-Dinitro-2-methylphenol	25.0	19.0 UL	19.0 X	ug/l	C/I
NHFLA-MW7BR-DEC2020	TN0335-2	W	N	4-Chloro-3-methylphenol	10.0	7.50 UL	7.50 X	ug/l	C/I
NHFLA-MW7BR-DEC2020	TN0335-2	W	N	4-Nitrophenol	25.0	19.0 UL	19.0 X	ug/l	C/I
NHFLA-MW7BR-DEC2020	TN0335-2	W	N	Cresols, m- & p-	10.0	7.50 U	7.50 X	ug/l	C/I
NHFLA-MW7BR-DEC2020	TN0335-2	W	N	Pentachlorophenol	25.0	19.0 UL	19.0 X	ug/l	C/I
NHFLA-MW7BR-DEC2020	TN0335-2	W	N	Phenol	10.0	7.50 UL	7.50 X	ug/l	C/I
NHFLA-MW7OB-DEC2020	TN0335-1	W	N	2,3,4,6-Tetrachlorophenol	9.50	7.10 UL	7.10 X	ug/l	C/I
NHFLA-MW7OB-DEC2020	TN0335-1	W	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-MW7OB-DEC2020	TN0335-1	W	N	2,4,6-Trichlorophenol	9.50	7.10 UL	7.10 X	ug/l	C/I
NHFLA-MW7OB-DEC2020	TN0335-1	W	N	2,4-Dichlorophenol	9.50	7.10 UL	7.10 X	ug/l	C/I
NHFLA-MW7OB-DEC2020	TN0335-1	W	N	2,4-Dimethylphenol	9.50	7.10 U	7.10 X	ug/l	I
NHFLA-MW7OB-DEC2020	TN0335-1	W	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-MW7OB-DEC2020	TN0335-1	W	N	2-Chlorophenol	9.50	7.10 UL	7.10 X	ug/l	C/I

Rejected Results

Test Method: SW8270 Extraction Method: SW3510 Leach Method: NONE

FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-MW7OB-DEC2020	TN0335-1	W	N	2-Methylphenol (o-Cresol)	9.50	7.10 U	7.10 X	ug/l	C/I
NHFLA-MW7OB-DEC2020	TN0335-1	W	N	2-Nitrophenol	9.50	7.10 UL	7.10 X	ug/l	C/I
NHFLA-MW7OB-DEC2020	TN0335-1	W	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-MW7OB-DEC2020	TN0335-1	W	N	4-Chloro-3-methylphenol	9.50	7.10 UL	7.10 X	ug/l	C/I
NHFLA-MW7OB-DEC2020	TN0335-1	W	N	4-Nitrophenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-MW7OB-DEC2020	TN0335-1	W	N	Cresols, m- & p-	9.50	7.10 U	7.10 X	ug/l	C/I
NHFLA-MW7OB-DEC2020	TN0335-1	W	N	Pentachlorophenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-MW7OB-DEC2020	TN0335-1	W	N	Phenol	9.50	7.10 UL	7.10 X	ug/l	C/I
NHFLA-MW8-DEC2020	TN0335-5	W	N	2,3,4,6-Tetrachlorophenol	9.40	7.10 UL	7.10 X	ug/l	C/I
NHFLA-MW8-DEC2020	TN0335-5	W	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-MW8-DEC2020	TN0335-5	W	N	2,4,6-Trichlorophenol	9.40	7.10 UL	7.10 X	ug/l	C/I
NHFLA-MW8-DEC2020	TN0335-5	W	N	2,4-Dichlorophenol	9.40	7.10 UL	7.10 X	ug/l	C/I
NHFLA-MW8-DEC2020	TN0335-5	W	N	2,4-Dimethylphenol	9.40	7.10 U	7.10 X	ug/l	I
NHFLA-MW8-DEC2020	TN0335-5	W	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-MW8-DEC2020	TN0335-5	W	N	2-Chlorophenol	9.40	7.10 UL	7.10 X	ug/l	C/I
NHFLA-MW8-DEC2020	TN0335-5	W	N	2-Methylphenol (o-Cresol)	9.40	7.10 U	7.10 X	ug/l	C/I
NHFLA-MW8-DEC2020	TN0335-5	W	N	2-Nitrophenol	9.40	7.10 UL	7.10 X	ug/l	C/I
NHFLA-MW8-DEC2020	TN0335-5	W	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-MW8-DEC2020	TN0335-5	W	N	4-Chloro-3-methylphenol	9.40	7.10 UL	7.10 X	ug/l	C/I
NHFLA-MW8-DEC2020	TN0335-5	W	N	4-Nitrophenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-MW8-DEC2020	TN0335-5	W	N	Cresols, m- & p-	9.40	7.10 U	7.10 X	ug/l	C/I
NHFLA-MW8-DEC2020	TN0335-5	W	N	Pentachlorophenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-MW8-DEC2020	TN0335-5	W	N	Phenol	9.40	7.10 UL	7.10 X	ug/l	C/I
NHFLA-MW9BR-DEC2020	TN0335-4	W	N	2,3,4,6-Tetrachlorophenol	10.0	7.90 UL	7.90 X	ug/l	C/I
NHFLA-MW9BR-DEC2020	TN0335-4	W	N	2,4,5-Trichlorophenol	26.0	20.0 UL	20.0 X	ug/l	C/I
NHFLA-MW9BR-DEC2020	TN0335-4	W	N	2,4,6-Trichlorophenol	10.0	7.90 UL	7.90 X	ug/l	C/I
NHFLA-MW9BR-DEC2020	TN0335-4	W	N	2,4-Dichlorophenol	10.0	7.90 UL	7.90 X	ug/l	C/I
NHFLA-MW9BR-DEC2020	TN0335-4	W	N	2,4-Dimethylphenol	10.0	7.90 U	7.90 X	ug/l	I

Rejected Results

Test Method: SW8270 Extraction Method: SW3510 Leach Method: NONE

FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-MW9BR-DEC2020	TN0335-4	W	N	2,4-Dinitrophenol	26.0	20.0 UL	20.0 X	ug/l	C/I
NHFLA-MW9BR-DEC2020	TN0335-4	W	N	2-Chlorophenol	10.0	7.90 UL	7.90 X	ug/l	C/I
NHFLA-MW9BR-DEC2020	TN0335-4	W	N	2-Methylphenol (o-Cresol)	10.0	7.90 U	7.90 X	ug/l	C/I
NHFLA-MW9BR-DEC2020	TN0335-4	W	N	2-Nitrophenol	10.0	7.90 UL	7.90 X	ug/l	C/I
NHFLA-MW9BR-DEC2020	TN0335-4	W	N	4,6-Dinitro-2-methylphenol	26.0	20.0 UL	20.0 X	ug/l	C/I
NHFLA-MW9BR-DEC2020	TN0335-4	W	N	4-Chloro-3-methylphenol	10.0	7.90 UL	7.90 X	ug/l	C/I
NHFLA-MW9BR-DEC2020	TN0335-4	W	N	4-Nitrophenol	26.0	20.0 UL	20.0 X	ug/l	C/I
NHFLA-MW9BR-DEC2020	TN0335-4	W	N	Cresols, m- & p-	10.0	7.90 U	7.90 X	ug/l	C/I
NHFLA-MW9BR-DEC2020	TN0335-4	W	N	Pentachlorophenol	26.0	20.0 UL	20.0 X	ug/l	C/I
NHFLA-MW9BR-DEC2020	TN0335-4	W	N	Phenol	10.0	7.90 UL	7.90 X	ug/l	C/I
NHFLA-MW9OB-DEC2020	TN0335-3	W	N	2,3,4,6-Tetrachlorophenol	9.40	7.10 UL	7.10 X	ug/l	C/I
NHFLA-MW9OB-DEC2020	TN0335-3	W	N	2,4,5-Trichlorophenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-MW9OB-DEC2020	TN0335-3	W	N	2,4,6-Trichlorophenol	9.40	7.10 UL	7.10 X	ug/l	C/I
NHFLA-MW9OB-DEC2020	TN0335-3	W	N	2,4-Dichlorophenol	9.40	7.10 UL	7.10 X	ug/l	C/I
NHFLA-MW9OB-DEC2020	TN0335-3	W	N	2,4-Dimethylphenol	9.40	7.10 U	7.10 X	ug/l	I
NHFLA-MW9OB-DEC2020	TN0335-3	W	N	2,4-Dinitrophenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-MW9OB-DEC2020	TN0335-3	W	N	2-Chlorophenol	9.40	7.10 UL	7.10 X	ug/l	C/I
NHFLA-MW9OB-DEC2020	TN0335-3	W	N	2-Methylphenol (o-Cresol)	9.40	7.10 U	7.10 X	ug/l	C/I
NHFLA-MW9OB-DEC2020	TN0335-3	W	N	2-Nitrophenol	9.40	7.10 UL	7.10 X	ug/l	C/I
NHFLA-MW9OB-DEC2020	TN0335-3	W	N	4,6-Dinitro-2-methylphenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-MW9OB-DEC2020	TN0335-3	W	N	4-Chloro-3-methylphenol	9.40	7.10 UL	7.10 X	ug/l	C/I
NHFLA-MW9OB-DEC2020	TN0335-3	W	N	4-Nitrophenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-MW9OB-DEC2020	TN0335-3	W	N	Cresols, m- & p-	9.40	7.10 U	7.10 X	ug/l	C/I
NHFLA-MW9OB-DEC2020	TN0335-3	W	N	Pentachlorophenol	24.0	18.0 UL	18.0 X	ug/l	C/I
NHFLA-MW9OB-DEC2020	TN0335-3	W	N	Phenol	9.40	7.10 UL	7.10 X	ug/l	C/I

Automated Data Review Detail Report for TN0335
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
A2340B/METHOD/NONE	9	9
BNASIM/SW3510/NONE	2	12
SW8270/SW3510/NONE	3	42

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
A2340B/METHOD/NONE	NHFLA-DUP14-DEC2020	FD	5	Hardness (as CaCO3)	14400	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-DUP15-DEC2020	FD	5	Hardness (as CaCO3)	267000	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-EB25-DEC2020	EB	5	Hardness (as CaCO3)	140 J	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW15-DEC2020	N	5	Hardness (as CaCO3)	127000	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW7BR-DEC2020	N	5	Hardness (as CaCO3)	11900	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW7OB-DEC2020	N	5	Hardness (as CaCO3)	14500	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW8-DEC2020	N	5	Hardness (as CaCO3)	83300	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW9BR-DEC2020	N	5	Hardness (as CaCO3)	197000	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW9OB-DEC2020	N	5	Hardness (as CaCO3)	255000	85.0	530	650	5	ug/L

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
BNASIM/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	Benzo(a)anthracene	0.130 UJ	0.0600	0.130	0.260	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	Benzo(a)pyrene	0.130 UJ	0.0860	0.130	0.260	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	Benzo(b)fluoranthene	0.130 UJ	0.120	0.130	0.260	0.2	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
BNASIM/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	Dibenz(a,h)anthracene	0.130 UJ	0.0910	0.130	0.260	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	Indeno(1,2,3-c,d)pyrene	0.130 UJ	0.0680	0.130	0.260	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	Naphthalene	0.130 UJ	0.0830	0.130	0.260	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-MW9BR-DEC2020	N	1	Benzo(a)anthracene	0.100 U	0.0480	0.100	0.210	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-MW9BR-DEC2020	N	1	Benzo(a)pyrene	0.100 U	0.0690	0.100	0.210	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-MW9BR-DEC2020	N	1	Benzo(b)fluoranthene	0.100 U	0.0940	0.100	0.210	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-MW9BR-DEC2020	N	1	Dibenz(a,h)anthracene	0.100 U	0.0740	0.100	0.210	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-MW9BR-DEC2020	N	1	Indeno(1,2,3-c,d)pyrene	0.100 U	0.0550	0.100	0.210	0.2	ug/L
BNASIM/SW3510/NONE	NHFLA-MW9BR-DEC2020	N	1	Naphthalene	0.240	0.0670	0.100	0.210	0.2	ug/L

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3510/NONE	NHFLA-DUP14-DEC2020	FD	1	2,4-Dinitrophenol	19.0 X	1.00	19.0	26.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-DUP14-DEC2020	FD	1	2-Nitroaniline	19.0 U	1.80	19.0	26.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-DUP14-DEC2020	FD	1	4,6-Dinitro-2-methylphenol	19.0 X	2.00	19.0	26.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-DUP14-DEC2020	FD	1	4-Nitroaniline	19.0 U	1.60	19.0	26.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-DUP14-DEC2020	FD	1	Pentachlorophenol	19.0 X	2.30	19.0	26.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	1,2,4,5-Tetrachlorobenzene	9.70 U	2.30	9.70	13.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	1,4-Dioxane (p-Dioxane)	9.70 U	2.30	9.70	13.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	2,3,4,6-Tetrachlorophenol	9.70 X	3.50	9.70	13.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	2,4,6-Trichlorophenol	9.70 X	3.50	9.70	13.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	2,4-Dichlorophenol	9.70 X	3.90	9.70	13.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	2,4-Dimethylphenol	9.70 X	5.70	9.70	13.0	12	ug/L
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	2,4-Dinitrophenol	24.0 X	1.30	24.0	32.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	2,4-Dinitrotoluene	9.70 U	2.80	9.70	13.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	2,6-Dinitrotoluene	9.70 U	2.60	9.70	13.0	10	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	2-Chlorophenol	9.70 X	4.20	9.70	13.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	2-Nitroaniline	24.0 U	2.30	24.0	32.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	3,3'-Dichlorobenzidine	9.70 U	1.40	9.70	13.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	4,6-Dinitro-2-methylphenol	24.0 X	2.60	24.0	32.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	4-Chloroaniline	9.70 U	2.50	9.70	13.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	4-Nitroaniline	24.0 U	2.10	24.0	32.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	Atrazine	9.70 U	4.30	9.70	13.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	Benzaldehyde	9.70 U	1.30	9.70	13.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	Benzyl butyl phthalate	9.70 U	2.50	9.70	13.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	Biphenyl (Diphenyl)	9.70 U	3.50	9.70	13.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	bis(2-Chloroethoxy) methane	9.70 U	2.70	9.70	13.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	bis(2-Chloroethyl) ether (2-Chloroethyl ether)	9.70 U	2.60	9.70	13.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	bis(2-Ethylhexyl) phthalate	9.70 U	2.20	9.70	13.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	Dibenzofuran	9.70 U	2.10	9.70	13.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	Di-n-octyl phthalate	9.70 U	2.30	9.70	13.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	Hexachlorobenzene	9.70 U	2.70	9.70	13.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	Hexachlorobutadiene	9.70 U	2.30	9.70	13.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	Hexachlorocyclopentadiene	9.70 U	1.60	9.70	13.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	Hexachloroethane	9.70 U	3.00	9.70	13.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	Nitrobenzene	9.70 U	4.00	9.70	13.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	n-Nitrosodi-n-propylamine	9.70 U	2.60	9.70	13.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	n-Nitrosodiphenylamine	9.70 U	4.80	9.70	13.0	10	ug/L
SW8270/SW3510/NONE	NHFLA-EB25-DEC2020	EB	1	Pentachlorophenol	24.0 X	3.00	24.0	32.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-MW9BR-DEC2020	N	1	2,4-Dinitrophenol	20.0 X	1.00	20.0	26.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-MW9BR-DEC2020	N	1	2-Nitroaniline	20.0 U	1.90	20.0	26.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-MW9BR-DEC2020	N	1	4,6-Dinitro-2-methylphenol	20.0 X	2.10	20.0	26.0	25	ug/L
SW8270/SW3510/NONE	NHFLA-MW9BR-DEC2020	N	1	4-Nitroaniline	20.0 U	1.70	20.0	26.0	25	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Automated Data Review Detail Report for TN0335
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
SW8270/SW3510/NONE	NHFLA-MW9BR-DEC2020	N	1	Pentachlorophenol	20.0 X	2.40	20.0	26.0	25	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
C	LCS Recovery
D3	Field Duplicate RPD
H1	Test Hold Time
H2	Prep Hold Time
I	Surrogate recovery outside project limits.
L	Lab Blank
M	MS Recovery
TR	Trace Level Detect
V	Equipment Blank

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: A2340B (Hardness by Calculation)

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?			•	
Were target analytes in the method blank less than MDL?			•	
Were target analytes in the field blank less than MDL?		•		Equipment blank detection below LOD did not result in qualification for field sample data.
Was an LCS/LCSD pair prepared and analyzed with each batch?			•	
Were LCS/LCSD recoveries within project acceptance limits?			•	
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: BNASIM (GC/MS-SIM Analysis by SW8270)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?		•		Samples -008 and -009 were analyzed one day outside of the 40 day project analytical hold time criteria so these results were qualified as estimated with UJ/H2 flags/reason codes.
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		QC batch WG292338 LCS had 1 of 3 surrogate recoveries biased high. Qualifications were not applied based on this high bias batch QC outlier.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		CCV outliers as noted in SDG case narrative were not addressed as part of this stage 2A review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW6020 (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch NL24IMW2 had detections below the LOD for aluminum, barium, copper, magnesium, manganese, potassium, sodium, chromium, cobalt, nickel. The following sample results were qualified as non-detect at the LOD with U/L flags/reason codes - aluminum - -001, -003, -008, -009, copper - all detected results, magnesium, manganese, potassium, sodium - sample -009, cobalt - -001, -002, -004, -007, -009, -011, -012, -014, -015, -016, -017, chromium - all detected results, nickel - -001, -002, -003, -004, -007. The following results were qualified non-detect at the LOQ with U/L flags/reason codes - aluminum - -005, -015, cobalt - -005, -006.
Were target analytes in the field blank less than MDL?		•		Dissolved equipment blank had detections below the LOD for aluminum, barium, calcium, copper, magnesium, manganese, potassium, sodium. The following dissolved metals results were qualified non-detect at the LOD with U/V flags/reason codes - aluminum - -013, -014, -016, -017, -018, copper - all field detections. Aluminum result -015 was qualified non-detect at the LOQ. Total metals equipment blank had detections below the LOD for aluminum, calcium, copper, magnesium, manganese, potassium, sodium, cobalt. The following field results were qualified non-detect at the LOD or LOQ with U/V flag/ reason codes: same as prep blank with exception of equipment blank qualifiers.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -013 recoveries for calcium and sodium were not used to qualify field results since spike concentration was considered not significant relative to source sample concentrations. (4X rule). Iron M flag was removed since SDG results were within lab and project criteria.
Was the MS/MSD RPD within project acceptance limits?	•			
Were the post spike recoveries within project acceptance limits?		•		Sample -013 recoveries for calcium, magnesium, manganese and sodium were not used to qualify field results due to 4X rule. Iron M flag was removed.
Were the serial dilution RPD values within project acceptance limits?	•			

Review Questions

Method: SW6020 (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Was the laboratory duplicate RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			D3 qualifiers were removed for zinc based on <5xRL criteria using LOD concentration for calculation of non-detect results.
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW7196 (Chromium, Hexavalent (Colorimetric))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			MS only
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW7470 (Mercury in Liquid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?	•			
Were the post spike recoveries within project acceptance limits?	•			
Were the serial dilution RPD values within project acceptance limits?	•			
Was the laboratory duplicate RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW8260 (Volatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?		•		Sample -009 was analyzed outside of project hold time criteria so results were qualified as estimated with J/UJ flags. NOTE: all other HT flags were removed from database.
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Re-analysis results for samples -001, -002, -003, -005, -006, -007, -010 had 1 of 4 surrogates recoveries biased high. None of this data was used for final results so qualifiers do not appear in database.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG292782, WG292785, WG292846 all had detections for methylene chloride below the LOD. Sample -009 methylene chloride result only was qualified as non-detect at the LOD with U/L flags/reason codes.
Were target analytes in the field blank less than MDL?		•		Trip blank was non-detect but equipment blank had detections below the LOD for toluene and methylene chloride and above the LOQ for acetone. Sample -008 acetone result was qualified estimated with J/V/+ flags/reason codes.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?			•	QC batch MS was not reported due to being non-SDG sample.
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?		•		Field duplicate and source sample (-003 and -008)results for methylcyclohexane were qualified as estimated with J/UJ/D3 flags/reason codes. Primary result was non-detect (RL 1.0) and FD result was 2.5 using criteria limit of 1.0.
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		ICV outliers as noted in SDG case narrative were not addressed as part of this stage 2A review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW8270 (Semivolatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?		•		All sample re-extraction analyses were outside of project criteria holding times. All associated results should be considered estimated. Re-analysis data for these samples was not available in the database so qualifications were not applied based on these hold time outliers.
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Acid fraction surrogates were biased low outsideof rejection criteria for samples -001 through -009 and reextractions for samples -001, -004, -005, -006,-007, -008, -009 and -009RA. so all acid fraction results for these samples (reextractions not reported as final results) were qualified as unusable with X/I flags/reason codes. NOTE: QC batch WG292337, WG292699, WG292649 method blank and LCS also had at least 2 acid fraction surrogate outliers biased low below rejection criteria.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch WG292337, WG292649 and WG292699 LCS recoveries were biased low or non-detect for most acid fraction analytes. All field sample results for these analytes were qualified with either X/C or UJ/C flags/reason codes. QCbatch WG292337 LCS also had high bias recovery outliers for benzaldehyde did not require qualification of client sample non-detect results.
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			Samples spiked were not from this SDG so recovery data was not available
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		ICAL, ICV, IS and CCV outliers as noted in SDG case narrative were not addressed as part of this stage 2A review
Were DoD QSM corrective actions followed if deviations were noted?		•		

Review Questions

Method: SW8270 (Semivolatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Were any data recommended for rejection (exclusion) in the data validation process?	•			All ACID FRACTION analyte results for samples -001 through -009 based on surrogate recovery outliers. Multiple acid fraction analyte results for all samples based on LCS recovery outliers.

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - December Groundwater Sampling
SDG:	TN0376
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Katahdin Analytical Services, Scarborough, ME
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	March 02, 2021

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	A2340B	BNASIM	SW6020	SW6020 - Dissolved	SW7196	SW7470	SW7470 - Dissolved	SW8260	SW8270
NHFLA-EB26-DEC2020	TN0376-3	Water	Equipment Blank/EB	X	X	X		X	X		X	X
NHFLA-EB26-DEC2020	TN0376-7	Water	Equipment Blank/EB				X			X		
NHFLA-MW13-DEC2020	TN0376-1	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW13-DEC2020	TN0376-5	Water	Field Sample/N				X			X		
NHFLA-MW6-DEC2020	TN0376-2	Water	Field Sample/N	X	X	X		X	X		X	X
NHFLA-MW6-DEC2020	TN0376-6	Water	Field Sample/N				X			X		
NHFLA-TB36-DEC2020	TN0376-4	Water	Trip Blank/TB								X	

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Katahdin Analytical Services, Scarborough, ME and were reported under sample delivery group (SDG) TN0376. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Extracted Internal Standard
- Lab Blank
- Lab Replicate RPD
- LCS Recovery
- MS Recovery
- MS RPD
- Prep Hold Time
- Surrogate
- Test Hold Time
- Trip Blank

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 34 results (6.16%) out of the 552 results (sample and field QC samples) reported are qualified based on review and 15 results (2.72%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Analytical Method	Data Reviewer Comment
A2340B	No additional comments; see Checklist for detail.
BNASIM	No additional comments; see Checklist for detail.
SW6020	No additional comments; see Checklist for detail.
SW7196	No additional comments; see Checklist for detail.
SW7470	No additional comments; see Checklist for detail.
SW8260	No additional comments; see Checklist for detail.
SW8270	No additional comments; see Checklist for detail.

Jim Tomalia

March 03, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method BNASIM, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG292407-1 (LB)/ WG292407-1	Chrysene	0.04900	< 0.036	< 0.2	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method BNASIM, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG292407-2 (BS)/ WG292407-2	2-Methylnaphthalene	121.0	39 - 114	10 - 114	percent	J/None	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW6020, Dissolved, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB26-DEC2020 (EB)/ TN0376-7	Nickel	0.2000	< 0.15	< 2	ug/l	U/None	V	
NHFLA-EB26-DEC2020 (EB)/ TN0376-7	Chromium	0.2800	< 0.22	< 5	ug/l	U/None	V	
NHFLA-EB26-DEC2020 (EB)/ TN0376-7	Copper	1.000	< 0.19	< 3	ug/l	U/None	V	
NHFLA-EB26-DEC2020 (EB)/ TN0376-7	Magnesium	15.00	< 8	< 100	ug/l	U/None	V	
NHFLA-EB26-DEC2020 (EB)/ TN0376-7	Aluminum	18.00	< 4.4	< 100	ug/l	U/None	V	
NHFLA-EB26-DEC2020 (EB)/ TN0376-7	Calcium	23.00	< 21	< 100	ug/l	U/None	V	
NHFLA-EB26-DEC2020 (EB)/ TN0376-7	Potassium	36.00	< 31	< 1000	ug/l	U/None	V	
NHFLA-EB26-DEC2020 (EB)/ TN0376-7	Sodium	414.0	< 19	< 1000	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW6020, Dissolved

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW13-DEC2020	N	Aluminum	100	49.5 J	100 U		ug/l	V
NHFLA-MW13-DEC2020	N	Chromium	5.00	0.510 J	4.00 U		ug/l	V
NHFLA-MW13-DEC2020	N	Copper	3.00	0.590 J	2.00 U		ug/l	V
NHFLA-MW13-DEC2020	N	Nickel	2.00	1.65 J	2.00 U		ug/l	V
NHFLA-MW6-DEC2020	N	Aluminum	100	75.5 J	100 U		ug/l	V
NHFLA-MW6-DEC2020	N	Chromium	5.00	0.520 J	4.00 U		ug/l	V
NHFLA-MW6-DEC2020	N	Copper	3.00	1.30 J	2.00 U		ug/l	V

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB26-DEC2020 (EB)/ TN0376-3	Nickel	0.1800	< 0.15	< 2	ug/l	U/None	V	
NHFLA-EB26-DEC2020 (EB)/ TN0376-3	Chromium	0.2500	< 0.22	< 5	ug/l	U/None	V	
NHFLA-EB26-DEC2020 (EB)/ TN0376-3	Copper	0.5600	< 0.19	< 3	ug/l	U/None	V	
NHFLA-EB26-DEC2020 (EB)/ TN0376-3	Magnesium	12.00	< 8	< 100	ug/l	U/None	V	
NHFLA-EB26-DEC2020 (EB)/ TN0376-3	Aluminum	20.00	< 4.4	< 100	ug/l	U/None	V	
NHFLA-EB26-DEC2020 (EB)/ TN0376-3	Calcium	24.00	< 21	< 100	ug/l	U/None	V	
NHFLA-EB26-DEC2020 (EB)/ TN0376-3	Sodium	322.0	< 19	< 1000	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Equipment Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW13-DEC2020	N	Aluminum	100	49.5 J	100 U		ug/l	V
NHFLA-MW13-DEC2020	N	Chromium	5.00	0.510 J	4.00 U		ug/l	V
NHFLA-MW13-DEC2020	N	Copper	3.00	0.590 J	2.00 U		ug/l	V
NHFLA-MW13-DEC2020	N	Nickel	2.00	1.65 J	2.00 U		ug/l	V
NHFLA-MW6-DEC2020	N	Aluminum	100	75.5 J	100 U		ug/l	V
NHFLA-MW6-DEC2020	N	Chromium	5.00	0.520 J	4.00 U		ug/l	V
NHFLA-MW6-DEC2020	N	Copper	3.00	1.30 J	2.00 U		ug/l	V

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW6020, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
PBWNL23IMW2 (LB)/ PBWNL23IMW2	Chromium	0.2300	< 0.22	< 5	ug/l	U/None	L	
PBWNL23IMW2 (LB)/ PBWNL23IMW2	Copper	0.5900	< 0.18	< 3	ug/l	U/None	L	
PBWNL23IMW2 (LB)/ PBWNL23IMW2	Magnesium	13.00	< 7.8	< 100	ug/l	U/None	L	
PBWNL23IMW2 (LB)/ PBWNL23IMW2	Iron	15.00	< 13	< 100	ug/l	U/None	L	
PBWNL23IMW2 (LB)/ PBWNL23IMW2	Aluminum	8.700	< 4.4	< 100	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW6020

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB26-DEC2020	EB	Aluminum	100	20.0 J	40.0 U		ug/l	L
NHFLA-EB26-DEC2020	EB	Chromium	5.00	0.250 J	4.00 U		ug/l	L
NHFLA-EB26-DEC2020	EB	Copper	3.00	0.560 J	2.00 U		ug/l	L
NHFLA-EB26-DEC2020	EB	Magnesium	100	12.0 J	80.0 U		ug/l	L
NHFLA-MW13-DEC2020	N	Aluminum	100	73.7 J	100 U		ug/l	V/L
NHFLA-MW13-DEC2020	N	Chromium	5.00	0.520 J	4.00 U		ug/l	V/L
NHFLA-MW13-DEC2020	N	Copper	3.00	0.940 J	2.00 U		ug/l	V/L
NHFLA-MW6-DEC2020	N	Chromium	5.00	0.710 J	4.00 U		ug/l	V/L
NHFLA-MW6-DEC2020	N	Copper	3.00	1.10 J	2.00 U		ug/l	V/L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW7196, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG292269-1 (LB)/ WG292269-1	Chromium, Hexavalent	0.002400	< 0.00076	< 0.025	mg/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW7196

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW13-DEC2020	N	Chromium, Hexavalent	0.0250	0.00190 J	0.0125 U		mg/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Equipment Blank

The purpose of equipment blanks is to determine the existence and magnitude of cross-contamination problems resulting from the process during sampling. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in equipment blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-EB26-DEC2020 (EB)/ TN0376-3	Toluene	0.4000	< 0.27	< 1	ug/l	U/None	V	
NHFLA-EB26-DEC2020 (EB)/ TN0376-3	Acetone	8.200	< 2.2	< 5	ug/l	U/None	V	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8260, Lab Blank

The purpose of laboratory blanks is to determine the existence and magnitude of cross-contamination problems resulting from laboratory activities. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in laboratory blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG292782-2 (LB)/ WG292782-2	Methylene chloride	1.900	< 1.1	< 5	ug/l	U/None	L	
WG292785-10 (LB)/ WG292785-10	Methylene chloride	1.200	< 1.1	< 5	ug/l	U/None	L	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Lab Blank for SW8260

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-TB36-DEC2020	TB	Methylene chloride	5.00	2.00 J	2.50 U		ug/l	L

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method SW8260, Trip Blank

The purpose of trip blanks is to determine the existence and magnitude of cross-contamination problems resulting from the shipping of samples. Reported results were evaluated to determine compliance with the required acceptance criteria. Summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and contaminants found in trip blanks are listed below along with any associated qualified results.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-TB36-DEC2020 (TB)/ TN0376-4	Methylene chloride	2.000	< 1.1	< 5	ug/l	U/None	T	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
WG292406-2 (BS)/ WG292406-2	Benzaldehyde	4420	10 - 189	10 - 189	percent	J/None	C	
WG292924-2 (BS)/ WG292924-2	4-Nitrophenol	0.000	10 - 114	10 - 114	percent	J/X	C	
WG292924-2 (BS)/ WG292924-2	2,4-Dinitrophenol	0.000	12 - 143	10 - 143	percent	J/X	C	
WG292924-2 (BS)/ WG292924-2	Pentachlorophenol	0.000	35 - 138	10 - 138	percent	J/X	C	
WG292924-2 (BS)/ WG292924-2	2-Chlorophenol	0.000	38 - 117	10 - 117	percent	J/X	C	
WG292924-2 (BS)/ WG292924-2	4,6-Dinitro-2-methylphenol	0.000	44 - 137	10 - 137	percent	J/X	C	
WG292924-2 (BS)/ WG292924-2	2,4-Dichlorophenol	0.000	47 - 121	10 - 121	percent	J/X	C	
WG292924-2 (BS)/ WG292924-2	2-Nitrophenol	0.000	47 - 123	10 - 123	percent	J/X	C	
WG292924-2 (BS)/ WG292924-2	2,4,6-Trichlorophenol	0.000	50 - 125	10 - 125	percent	J/X	C	
WG292924-2 (BS)/ WG292924-2	2,3,4,6-Tetrachlorophenol	0.000	50 - 128	10 - 128	percent	J/X	C	
WG292924-2 (BS)/ WG292924-2	2,4,5-Trichlorophenol	0.000	53 - 123	10 - 123	percent	J/X	C	
WG292924-2 (BS)/ WG292924-2	Cresols, m- & p-	19.10	29 - 110	10 - 110	percent	J/UJ	C	
WG292924-2 (BS)/ WG292924-2	4-Chloro-3-methylphenol	20.70	52 - 119	10 - 119	percent	J/UJ	C	
WG292924-2 (BS)/ WG292924-2	2-Methylphenol (o-Cresol)	25.60	30 - 117	10 - 117	percent	J/UJ	C	
WG292924-2 (BS)/ WG292924-2	Phenol	3.120	10 - 78	10 - 78	percent	J/X	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method SW8270, Surrogate

Method performance for individual samples is demonstrated through spiking activities. All samples are spiked with surrogate compounds prior to sample preparation. The sample itself may produce effects due to such factors as interferences and high concentrations of analytes. Summary forms were evaluated and compared to electronic data deliverables. Surrogate results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW13-DEC2020 (N)/ TN0376-1	2,4,6-Tribromophenol	26.70	43 - 140	10 - 140	percent	J/UJ	I	
NHFLA-MW13-DEC2020 (N)/ TN0376-1	Phenol-d6	8.460	10 - 90	10 - 90	percent	J/X	I	
NHFLA-MW13-DEC2020 (N)/ TN0376-1	2-Fluorophenol	9.610	19 - 119	10 - 119	percent	J/X	I	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Surrogate for SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW13-DEC2020	N	2,3,4,6-Tetrachlorophenol	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-MW13-DEC2020	N	2,4,5-Trichlorophenol	23.0	18.0 U	18.0 X		ug/l	I
NHFLA-MW13-DEC2020	N	2,4,6-Trichlorophenol	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-MW13-DEC2020	N	2,4-Dichlorophenol	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-MW13-DEC2020	N	2,4-Dimethylphenol	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-MW13-DEC2020	N	2,4-Dinitrophenol	23.0	18.0 U	18.0 X		ug/l	I
NHFLA-MW13-DEC2020	N	2-Chlorophenol	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-MW13-DEC2020	N	2-Methylphenol (o-Cresol)	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-MW13-DEC2020	N	2-Nitrophenol	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-MW13-DEC2020	N	4,6-Dinitro-2-methylphenol	23.0	18.0 U	18.0 X		ug/l	I
NHFLA-MW13-DEC2020	N	4-Chloro-3-methylphenol	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-MW13-DEC2020	N	4-Nitrophenol	23.0	18.0 U	18.0 X		ug/l	I
NHFLA-MW13-DEC2020	N	Cresols, m- & p-	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-MW13-DEC2020	N	Pentachlorophenol	23.0	18.0 U	18.0 X		ug/l	I
NHFLA-MW13-DEC2020	N	Phenol	9.30	7.00 U	7.00 X		ug/l	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Table of All Qualified Results

Test Method: SW6020	Extraction Method: Dissolved							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW13-DEC2020	N	Aluminum	100	49.5 J	100 U		ug/l	V
NHFLA-MW13-DEC2020	N	Chromium	5.00	0.510 J	4.00 U		ug/l	V
NHFLA-MW13-DEC2020	N	Copper	3.00	0.590 J	2.00 U		ug/l	V
NHFLA-MW13-DEC2020	N	Nickel	2.00	1.65 J	2.00 U		ug/l	V
NHFLA-MW6-DEC2020	N	Aluminum	100	75.5 J	100 U		ug/l	V
NHFLA-MW6-DEC2020	N	Chromium	5.00	0.520 J	4.00 U		ug/l	V
NHFLA-MW6-DEC2020	N	Copper	3.00	1.30 J	2.00 U		ug/l	V

Test Method: SW6020	Extraction Method: SW3010							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB26-DEC2020	EB	Aluminum	100	20.0 J	40.0 U		ug/l	L
NHFLA-EB26-DEC2020	EB	Chromium	5.00	0.250 J	4.00 U		ug/l	L
NHFLA-EB26-DEC2020	EB	Copper	3.00	0.560 J	2.00 U		ug/l	L
NHFLA-EB26-DEC2020	EB	Magnesium	100	12.0 J	80.0 U		ug/l	L
NHFLA-MW13-DEC2020	N	Aluminum	100	73.7 J	100 U		ug/l	V/L
NHFLA-MW13-DEC2020	N	Chromium	5.00	0.520 J	4.00 U		ug/l	V/L
NHFLA-MW13-DEC2020	N	Copper	3.00	0.940 J	2.00 U		ug/l	V/L
NHFLA-MW13-DEC2020	N	Nickel	2.00	0.240 J	1.20 U		ug/l	V
NHFLA-MW6-DEC2020	N	Chromium	5.00	0.710 J	4.00 U		ug/l	V/L
NHFLA-MW6-DEC2020	N	Copper	3.00	1.10 J	2.00 U		ug/l	V/L

Test Method: SW7196	Extraction Method: NONE							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW13-DEC2020	N	Chromium, Hexavalent	0.0250	0.00190 J	0.0125 U		mg/l	L

Test Method: SW8260	Extraction Method: SW5030							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-TB36-DEC2020	TB	Methylene chloride	5.00	2.00 J	2.50 U		ug/l	L

Test Method: SW8270	Extraction Method: SW3510							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW13-DEC2020	N	2,3,4,6-Tetrachlorophenol	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-MW13-DEC2020	N	2,4,5-Trichlorophenol	23.0	18.0 U	18.0 X		ug/l	I
NHFLA-MW13-DEC2020	N	2,4,6-Trichlorophenol	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-MW13-DEC2020	N	2,4-Dichlorophenol	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-MW13-DEC2020	N	2,4-Dimethylphenol	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-MW13-DEC2020	N	2,4-Dinitrophenol	23.0	18.0 U	18.0 X		ug/l	I
NHFLA-MW13-DEC2020	N	2-Chlorophenol	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-MW13-DEC2020	N	2-Methylphenol (o-Cresol)	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-MW13-DEC2020	N	2-Nitrophenol	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-MW13-DEC2020	N	4,6-Dinitro-2-methylphenol	23.0	18.0 U	18.0 X		ug/l	I
NHFLA-MW13-DEC2020	N	4-Chloro-3-methylphenol	9.30	7.00 U	7.00 X		ug/l	I

Table of All Qualified Results

Test Method: SW8270 Extraction Method: SW3510

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW13-DEC2020	N	4-Nitrophenol	23.0	18.0 U	18.0 X		ug/l	I
NHFLA-MW13-DEC2020	N	Cresols, m- & p-	9.30	7.00 U	7.00 X		ug/l	I
NHFLA-MW13-DEC2020	N	Pentachlorophenol	23.0	18.0 U	18.0 X		ug/l	I
NHFLA-MW13-DEC2020	N	Phenol	9.30	7.00 U	7.00 X		ug/l	I

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW13-DEC2020	N	1,2,4,5-Tetrachlorobenzene	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW13-DEC2020	N	1,4-Dioxane (p-Dioxane)	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW13-DEC2020	N	2,2'-Oxybis(1-chloropropane)	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW13-DEC2020	N	2,4-Dinitrotoluene	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW13-DEC2020	N	2,6-Dinitrotoluene	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW13-DEC2020	N	2-Chloronaphthalene	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW13-DEC2020	N	2-Nitroaniline	23.0	18.0 U	18.0 X	18.0 U	
NHFLA-MW13-DEC2020	N	3,3'-Dichlorobenzidine	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW13-DEC2020	N	3-Nitroaniline	23.0	18.0 U	18.0 X	18.0 U	
NHFLA-MW13-DEC2020	N	4-Bromophenyl phenyl ether	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW13-DEC2020	N	4-Chloroaniline	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW13-DEC2020	N	4-Chlorophenyl phenyl ether	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW13-DEC2020	N	4-Nitroaniline	23.0	18.0 U	18.0 X	18.0 U	
NHFLA-MW13-DEC2020	N	Acetophenone	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW13-DEC2020	N	Atrazine	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW13-DEC2020	N	Benzaldehyde	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW13-DEC2020	N	Benzyl butyl phthalate	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW13-DEC2020	N	Biphenyl (Diphenyl)	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW13-DEC2020	N	Bis(2-chloroethoxy)methane	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW13-DEC2020	N	Bis(2-chloroethyl) ether (2-Chloroethyl ether)	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW13-DEC2020	N	Bis(2-ethylhexyl)phthalate	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW13-DEC2020	N	Caprolactam	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW13-DEC2020	N	Carbazole	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW13-DEC2020	N	Dibenzofuran	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW13-DEC2020	N	Diethyl phthalate	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW13-DEC2020	N	Dimethyl phthalate	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW13-DEC2020	N	Di-n-butyl phthalate	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW13-DEC2020	N	di-n-Octyl phthalate	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW13-DEC2020	N	Hexachlorobenzene	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW13-DEC2020	N	Hexachlorobutadiene	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW13-DEC2020	N	Hexachlorocyclopentadiene	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW13-DEC2020	N	Hexachloroethane	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW13-DEC2020	N	Isophorone	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW13-DEC2020	N	Nitrobenzene	9.30	7.00 U	7.00 X	7.00 U	
NHFLA-MW13-DEC2020	N	N-Nitrosodi-n-propylamine	9.30	7.00 U	7.00 X	7.00 U	

Table of Results with Modified Qualifiers

Modified Qualifiers for test method SW8270

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW13-DEC2020	N	N-Nitrosodiphenylamine	9.30	7.00 U	7.00 X	7.00 U	

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Rejected Results

Test Method: SW8270 Extraction Method: SW3510 Leach Method: NONE

FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-MW13-DEC2020	TN0376-1	W	N	2,3,4,6-Tetrachlorophenol	9.30	7.00 U	7.00 X	ug/l	I
NHFLA-MW13-DEC2020	TN0376-1	W	N	2,4,5-Trichlorophenol	23.0	18.0 U	18.0 X	ug/l	I
NHFLA-MW13-DEC2020	TN0376-1	W	N	2,4,6-Trichlorophenol	9.30	7.00 U	7.00 X	ug/l	I
NHFLA-MW13-DEC2020	TN0376-1	W	N	2,4-Dichlorophenol	9.30	7.00 U	7.00 X	ug/l	I
NHFLA-MW13-DEC2020	TN0376-1	W	N	2,4-Dimethylphenol	9.30	7.00 U	7.00 X	ug/l	I
NHFLA-MW13-DEC2020	TN0376-1	W	N	2,4-Dinitrophenol	23.0	18.0 U	18.0 X	ug/l	I
NHFLA-MW13-DEC2020	TN0376-1	W	N	2-Chlorophenol	9.30	7.00 U	7.00 X	ug/l	I
NHFLA-MW13-DEC2020	TN0376-1	W	N	2-Methylphenol (o-Cresol)	9.30	7.00 U	7.00 X	ug/l	I
NHFLA-MW13-DEC2020	TN0376-1	W	N	2-Nitrophenol	9.30	7.00 U	7.00 X	ug/l	I
NHFLA-MW13-DEC2020	TN0376-1	W	N	4,6-Dinitro-2-methylphenol	23.0	18.0 U	18.0 X	ug/l	I
NHFLA-MW13-DEC2020	TN0376-1	W	N	4-Chloro-3-methylphenol	9.30	7.00 U	7.00 X	ug/l	I
NHFLA-MW13-DEC2020	TN0376-1	W	N	4-Nitrophenol	23.0	18.0 U	18.0 X	ug/l	I
NHFLA-MW13-DEC2020	TN0376-1	W	N	Cresols, m- & p-	9.30	7.00 U	7.00 X	ug/l	I
NHFLA-MW13-DEC2020	TN0376-1	W	N	Pentachlorophenol	23.0	18.0 U	18.0 X	ug/l	I
NHFLA-MW13-DEC2020	TN0376-1	W	N	Phenol	9.30	7.00 U	7.00 X	ug/l	I

Automated Data Review Detail Report for TN0376
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
A2340B/METHOD/NONE	3	3

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
A2340B/METHOD/NONE	NHFLA-EB26-DEC2020	EB	5	Hardness (as CaCO3)	110 J	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW13-DEC2020	N	5	Hardness (as CaCO3)	43700	85.0	530	650	5	ug/L
A2340B/METHOD/NONE	NHFLA-MW6-DEC2020	N	5	Hardness (as CaCO3)	140000	85.0	530	650	5	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
C	LCS Recovery
I	Surrogate recovery outside project limits.
L	Lab Blank
T	Trip Blank
TR	Trace Level Detect
V	Equipment Blank

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: A2340B (Hardness by Calculation)

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?		•		
Were target analytes in the method blank less than MDL?			•	
Were target analytes in the field blank less than MDL?		•		Equipment blank detection below LOD.
Was an LCS/LCSD pair prepared and analyzed with each batch?		•		
Were LCS/LCSD recoveries within project acceptance limits?			•	
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?			•	
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?		•		
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: BNASIM (GC/MS-SIM Analysis by SW8270)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch method blank WG292407-1 had a detection below LOD for CHRYSENE. Qualifications were not required based on this prep blank detection..
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch WG292407 recovery was biased high for 2-methylnaphthalene. Qualification was not required based on this high bias QC outlier since all associated results were non-detect.
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		Internal standard and CCV outliers as noted in SDG case narrative were not addressed as part of this stage 2A review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW6020 (Trace Metals by Inductively Coupled Plasma/Mass Spectrometry)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch prep blank PBWNL23IMW2 had detections below the LOD for aluminum, chromium, copper, iron, magnesium. The following field sample results were qualified non-detect at LOD with U/L flags reason codes: Sample -003 - aluminum, chromium, copper, magnesium, sample -001 aluminum, chromium, copper, sample -002 - chromium, copper.
Were target analytes in the field blank less than MDL?		•		Equipment blanks had detections below theLOD for TOTAL and DISSOLVED metals - ALUMINUM, CALCIUM, CHROMIUM, COPPER,MAGNESIUM, NICKEL, SODIUM and dissolved metals only for POTASSIUM. See equipment blank detection qualification summary table for field sample results qualified non-detect at LOD with U/V flag/reason code based on appropriate equipment blank.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?			•	Spiked sample was not from this SDG so recovery data was not available.
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?	•			
Were the serial dilution RPD values within project acceptance limits?	•			
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW7196 (Chromium, Hexavalent (Colorimetric))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batch WG292269 detection below LOD required qualification of non-detect at the LOD with U/L flag/reason code for sample -001.
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			MS only
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?			•	
Were the post spike recoveries within project acceptance limits?			•	
Were the serial dilution RPD values within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?	•			
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW7470 (Mercury in Liquid Waste (Manual Cold-Vapor Technique))				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?	•			
Was the MS/MSD RPD within project acceptance limits?	•			
Were the post spike recoveries within project acceptance limits?		•		Sample -006 PDS was outlier biased high. Sample result was non-detect so was not affected by this high bias so qualification was not required.
Were the serial dilution RPD values within project acceptance limits?	•			
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?	•			
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW8260 (Volatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?		•		QC batches WG292782 and WG292785 had detections below the LOD for methylene chloride. Field sample -004 methylene chloride result was qualified as non-detect at the LOD with U/L flag/reason code.
Were target analytes in the field blank less than MDL?		•		Trip blank had a detection below the LOD for methylene chloride (qualified as noted above). Equipment blank had detections above the LOQ for acetone and below the LOD for toluene. Qualifications were not required based on these field blank detections.
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			LCS only
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			Spike samples were not from this SDG so recovery data was not available.
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		ICV outliers as noted in SDG case narrative were not addressed as part of this stage 2A review
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data recommended for rejection (exclusion) in the data validation process?		•		

Review Questions

Method: SW8270 (Semivolatile Organic Compounds by Capillary GC/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Were surrogate recoveries within project acceptance limits?		•		Acid fraction surrogates were biased low outside of rejection criteria for samples -001, -001RE so all acid fraction results for these samples were qualified as unusable with X/I flags/reason codes. NOTE: QC batch WG292924 method blank and LCS also had at least 2 acid fraction surrogate outliers biased low below rejection criteria.
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch WG292924 LCS recoveries were biased low or non-detect for 14 acid fraction analytes (all acid fraction analytes except methyphenols and 4 -chloro-3-methylphenol). Sample -001RE only acid fraction results for these analytes were qualified with either X/C or UJ/C flags/reason codes. QC batch WG292406 LCS high bias recovery outliers for benzaldehyde did not require qualification of client sample non-detect results.
Was the LCS/LCSD RPD within project acceptance limits?			•	
Was a MS/MSD pair prepared with each batch?	•			Samples spiked were not from this SDG so recovery data was not available.
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?		•		ICAL, ICV and CCV outliers as noted in SDG case narrative were not addressed as part of this stage 2A review.
Were DoD QSM corrective actions followed if deviations were noted?		•		
Were any data recommended for rejection (exclusion) in the data validation process?	•			All ACID FRACTION analyte results for samples-001/-001RE based on surrogaterecovery outliers. Multiple acid fraction analyteresults for samples -001RE basedon LCS recovery outliers.

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	410-11489-1_52_2a_FUDSChem
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	November 19, 2020

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	M8315A
NHFLA-MW5OB-A-AUG2020	410-11489-1	Soil	Field Sample/N	X
NHFLA-MW5OB-B-AUG2020	410-11489-2	Soil	Field Sample/N	X
NHFLA-MW5OB-C-AUG2020	410-11489-3	Soil	Field Sample/N	X
NHFLA-EB1-AUG2020	410-11489-4	Water	Equipment Blank/EB	X

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA and were reported under sample delivery group (SDG) 410-11489-1_52_2a_FUDSChem. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Lab Blank
- LCS Recovery
- LCS RPD
- Prep Hold Time
- Test Hold Time

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 0 results (0.00%) out of the 12 results (sample and field QC samples) reported are qualified based on review and 0 results (0.00%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Reported as part of SDG SN6964.

Analytical Method	Data Reviewer Comment
M8315A	No additional comments; see Checklist for detail.

Jim Tomalia

January 12, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method M8315A, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW5OB-A-AUG2020 (N)/ 410-11489-1		6.620	< 3	< 6	days	J/X	H1	Test Exceeds UCL
NHFLA-MW5OB-B-AUG2020 (N)/ 410-11489-2		6.660	< 3	< 6	days	J/X	H1	Test Exceeds UCL
NHFLA-MW5OB-C-AUG2020 (N)/ 410-11489-3		6.500	< 3	< 6	days	J/X	H1	Test Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Qualified Results

No results associated with this sample delivery group required qualification.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method M8315A

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW5OB-A-AUG2020	N	1,1-Dimethylhydrazine	0.120	0.100 U	0.100 X	0.100 U	
NHFLA-MW5OB-A-AUG2020	N	Hydrazine	0.120	0.0500 U	0.0500 X	0.0500 U	
NHFLA-MW5OB-A-AUG2020	N	Methyl hydrazine	0.120	0.100 U	0.100 X	0.100 U	
NHFLA-MW5OB-B-AUG2020	N	1,1-Dimethylhydrazine	0.130	0.100 U	0.100 X	0.100 U	
NHFLA-MW5OB-B-AUG2020	N	Hydrazine	0.130	0.0500 U	0.0500 X	0.0500 U	
NHFLA-MW5OB-B-AUG2020	N	Methyl hydrazine	0.130	0.100 U	0.100 X	0.100 U	
NHFLA-MW5OB-C-AUG2020	N	1,1-Dimethylhydrazine	0.120	0.0990 U	0.0990 X	0.0990 U	
NHFLA-MW5OB-C-AUG2020	N	Hydrazine	0.120	0.0500 U	0.0500 X	0.0500 U	
NHFLA-MW5OB-C-AUG2020	N	Methyl hydrazine	0.120	0.0990 U	0.0990 X	0.0990 U	

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Automated Data Review Detail Report for 410-11489-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

QC Outlier Report

Test Method: M8315A Extraction Method: NONE Leach Method: NONE

QC Element	Sample ID/ Lab Sample ID	Run#/ Dil'n	Analyte	Result (Units)	Qualifier	Warning Limits	Control Limits	Reason	Comment	Rule	Action Level
Test Hold Time	NHFLA-MW5OB-A-AUG2020 (N) / 410-11489-1	1 / 1.00	All in Run	6.620 (days)	J/X	< 3	< 6	H1	Test Exceeds UCL		
Test Hold Time	NHFLA-MW5OB-B-AUG2020 (N) / 410-11489-2	1 / 1.00	All in Run	6.660 (days)	J/X	< 3	< 6	H1	Test Exceeds UCL		
Test Hold Time	NHFLA-MW5OB-C-AUG2020 (N) / 410-11489-3	1 / 1.00	All in Run	6.500 (days)	J/X	< 3	< 6	H1	Test Exceeds UCL		

Rule is the multiplier used when blank contamination occurs to determine action level.

Automated Data Review Detail Report for 410-11489-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Qualified Results

--No Records Found--

Detected Results

--No Records Found--

Rejected Results

--No Records Found--

Automated Data Review Detail Report for 410-11489-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
M8315A/NONE/NONE	1	3

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
M8315A/NONE/NONE	NHFLA-EB1-AUG2020	EB	1	1,1-Dimethylhydrazine	0.630 U	0.310	0.630	1.00	0.8	ug/L
M8315A/NONE/NONE	NHFLA-EB1-AUG2020	EB	1	Hydrazine	0.500 U	0.130	0.500	0.630	0.5	ug/L
M8315A/NONE/NONE	NHFLA-EB1-AUG2020	EB	1	Methyl Hydrazine	0.630 U	0.310	0.630	1.00	0.8	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
H1	Test Hold Time

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: M8315A (Determination of Hydrazine, Monomethylhydrazine, and 1,1- Dimethylhydrazine in Aqueous and Soil Samples by LC/MS/MS)

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			H1 qualifiers removed since samples prepped and analyzed within project criteria holding times.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were surrogate recoveries within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	410-11491-1_52_2a_FUDSChem
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	November 06, 2020

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	M8315A
NHFLA-MW1OB-A-AUG2020	410-11491-1	Solid	Field Sample/N	X
NHFLA-MW1OB-B-AUG2020	410-11491-2	Solid	Field Sample/N	X
NHFLA-MW1OB-C-AUG2020	410-11491-3	Solid	Field Sample/N	X
NHFLA-EB2-AUG2020	410-11491-4	Water	Equipment Blank/EB	X

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA and were reported under sample delivery group (SDG) 410-11491-1_52_2a_FUDSChem. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Lab Blank
- LCS Recovery
- LCS RPD
- Prep Hold Time
- Test Hold Time

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 0 results (0.00%) out of the 12 results (sample and field QC samples) reported are qualified based on review and 0 results (0.00%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Reported as part of SDG 7007.

Analytical Method	Data Reviewer Comment
M8315A	No additional comments; see Checklist for detail.

Jim Tomalia

January 12, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method M8315A, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW1OB-A-AUG2020 (N)/ 410-11491-1		5.630	< 3	< 6	days	J/UJ	H1	Test Exceeds UWL
NHFLA-MW1OB-B-AUG2020 (N)/ 410-11491-2		5.560	< 3	< 6	days	J/UJ	H1	Test Exceeds UWL
NHFLA-MW1OB-C-AUG2020 (N)/ 410-11491-3		5.620	< 3	< 6	days	J/UJ	H1	Test Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Qualified Results

No results associated with this sample delivery group required qualification.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method M8315A

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW1OB-A-AUG2020	N	1,1-Dimethylhydrazine	0.130	0.100 U	0.100 UJ	0.100 U	
NHFLA-MW1OB-A-AUG2020	N	Hydrazine	0.130	0.0500 U	0.0500 UJ	0.0500 U	
NHFLA-MW1OB-A-AUG2020	N	Methyl hydrazine	0.130	0.100 U	0.100 UJ	0.100 U	
NHFLA-MW1OB-B-AUG2020	N	1,1-Dimethylhydrazine	0.120	0.0990 U	0.0990 UJ	0.0990 U	
NHFLA-MW1OB-B-AUG2020	N	Hydrazine	0.120	0.0500 U	0.0500 UJ	0.0500 U	
NHFLA-MW1OB-B-AUG2020	N	Methyl hydrazine	0.120	0.0990 U	0.0990 UJ	0.0990 U	
NHFLA-MW1OB-C-AUG2020	N	1,1-Dimethylhydrazine	0.120	0.100 U	0.100 UJ	0.100 U	
NHFLA-MW1OB-C-AUG2020	N	Hydrazine	0.120	0.0500 U	0.0500 UJ	0.0500 U	
NHFLA-MW1OB-C-AUG2020	N	Methyl hydrazine	0.120	0.100 U	0.100 UJ	0.100 U	

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Automated Data Review Detail Report for 410-11491-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

QC Outlier Report

Test Method: M8315A Extraction Method: NONE Leach Method: NONE

QC Element	Sample ID/ Lab Sample ID	Run#/ Dil'n	Analyte	Result (Units)	Qualifier	Warning Limits	Control Limits	Reason	Comment	Rule	Action Level
Test Hold Time	NHFLA-MW1OB-A-AUG2020 (N) / 410-11491-1	1 / 1.00	All in Run	5.630 (days)	J/UJ	< 3	< 6	H1	Test Exceeds UWL		
Test Hold Time	NHFLA-MW1OB-B-AUG2020 (N) / 410-11491-2	1 / 1.00	All in Run	5.560 (days)	J/UJ	< 3	< 6	H1	Test Exceeds UWL		
Test Hold Time	NHFLA-MW1OB-C-AUG2020 (N) / 410-11491-3	1 / 1.00	All in Run	5.620 (days)	J/UJ	< 3	< 6	H1	Test Exceeds UWL		

Rule is the multiplier used when blank contamination occurs to determine action level.

Automated Data Review Detail Report for 410-11491-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Qualified Results

--No Records Found--

Detected Results

--No Records Found--

Rejected Results

--No Records Found--

Automated Data Review Detail Report for 410-11491-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
M8315A/NONE/NONE	1	3

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
M8315A/NONE/NONE	NHFLA-EB2-AUG2020	EB	1	1,1-Dimethylhydrazine	0.630 U	0.310	0.630	1.00	0.8	ug/L
M8315A/NONE/NONE	NHFLA-EB2-AUG2020	EB	1	Hydrazine	0.500 U	0.130	0.500	0.630	0.5	ug/L
M8315A/NONE/NONE	NHFLA-EB2-AUG2020	EB	1	Methyl Hydrazine	0.630 U	0.310	0.630	1.00	0.8	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
H1	Test Hold Time

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: M8315A (Determination of Hydrazine, Monomethylhydrazine, and 1,1- Dimethylhydrazine in Aqueous and Soil Samples by LC/MS/MS)

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			H1 qualifiers removed since samples prepped and analyzed within project criteria holding times.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were surrogate recoveries within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	410-11806-1_52_2a_FUDSChem
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	November 06, 2020

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	M8315A
NHFLA-MW16-A-AUG2020	410-11806-1	Solid	Field Sample/N	X
NHFLA-MW16-B-AUG2020	410-11806-2	Solid	Field Sample/N	X
NHFLA-MW16-C-AUG2020	410-11806-3	Solid	Field Sample/N	X
NHFLA-EB4-AUG2020	410-11806-4	Water	Equipment Blank/EB	X

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA and were reported under sample delivery group (SDG) 410-11806-1_52_2a_FUDSChem. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Lab Blank
- LCS Recovery
- LCS RPD
- MS Recovery
- MS RPD
- Prep Hold Time
- Test Hold Time

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 2 results (16.67%) out of the 12 results (sample and field QC samples) reported are qualified based on review and 1 results (8.33%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Reported in SDG SN7081.

Analytical Method	Data Reviewer Comment
M8315A	No additional comments; see Checklist for detail.

Jim Tomalia

January 12, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method M8315A, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
LCS 410-37524/2-A (BS)/ LCS 410-37524/2-A	1,1-Dimethylhydrazine	135.7	70 - 135	10 - 135	percent	J/None	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method M8315A, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW16-A-AUG2020 (MS)/ 410-11806-1MS	Hydrazine	4.233	54 - 128	10 - 128	percent	J/X	M	
NHFLA-MW16-A-AUG2020 (SD)/ 410-11806-1MSD	Methyl hydrazine	21.71	29 - 187	10 - 187	percent	J/UJ	M	
NHFLA-MW16-A-AUG2020 (SD)/ 410-11806-1MSD	Hydrazine	3.783	54 - 128	10 - 128	percent	J/X	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for M8315A

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW16-A-AUG2020	N	Hydrazine	0.120	0.0500 U J1 M	0.0500 X		ng/g	M
NHFLA-MW16-A-AUG2020	N	Methyl hydrazine	0.120	0.0990 U J1	0.0990 UJ		ng/g	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method M8315A, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW16-A-AUG2020 (N)/ 410-11806-1		5.540	< 3	< 6	days	J/UJ	H1	Test Exceeds UWL
NHFLA-MW16-A-AUG2020 (N)/ 410-11806-1MS		5.540	< 3	< 6	days	J/UJ	H1	Test Exceeds UWL
NHFLA-MW16-A-AUG2020 (N)/ 410-11806-1MSD		5.540	< 3	< 6	days	J/UJ	H1	Test Exceeds UWL
NHFLA-MW16-B-AUG2020 (N)/ 410-11806-2		5.530	< 3	< 6	days	J/UJ	H1	Test Exceeds UWL
NHFLA-MW16-C-AUG2020 (N)/ 410-11806-3		5.390	< 3	< 6	days	J/UJ	H1	Test Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Table of All Qualified Results

Test Method: M8315A Extraction Method: NONE								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW16-A-AUG2020	N	Hydrazine	0.120	0.0500 U J1 M	0.0500 X		ng/g	M
NHFLA-MW16-A-AUG2020	N	Methyl hydrazine	0.120	0.0990 U J1	0.0990 UJ		ng/g	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method M8315A

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW16-A-AUG2020	N	1,1-Dimethylhydrazine	0.120	0.0990 U	0.0990 UJ	0.0990 U	
NHFLA-MW16-A-AUG2020	N	Hydrazine	0.120	0.0500 U J1 M	0.0500 X	0.0500 X	M
NHFLA-MW16-A-AUG2020	N	Methyl hydrazine	0.120	0.0990 U J1	0.0990 UJ	0.0990 UJ	M
NHFLA-MW16-B-AUG2020	N	1,1-Dimethylhydrazine	0.120	0.0990 U	0.0990 UJ	0.0990 U	
NHFLA-MW16-B-AUG2020	N	Hydrazine	0.120	0.0500 U	0.0500 UJ	0.0500 U	
NHFLA-MW16-B-AUG2020	N	Methyl hydrazine	0.120	0.0990 U	0.0990 UJ	0.0990 U	
NHFLA-MW16-C-AUG2020	N	1,1-Dimethylhydrazine	0.120	0.0990 U	0.0990 UJ	0.0990 U	
NHFLA-MW16-C-AUG2020	N	Hydrazine	0.120	0.0500 U M	0.0500 UJ	0.0500 U	
NHFLA-MW16-C-AUG2020	N	Methyl hydrazine	0.120	0.0990 U	0.0990 UJ	0.0990 U	

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Automated Data Review Detail Report for 410-11806-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Qualified Results

Test Method: M8315A Extraction Method: NONE Leach Method: NONE

FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW16-A-AUG2020	410-11806-1	S	N	Hydrazine	0.120	0.0500 U J1 M	0.0500 X		ng/g	M
NHFLA-MW16-A-AUG2020	410-11806-1	S	N	Methyl hydrazine	0.120	0.0990 U J1	0.0990 UJ		ng/g	M

Qualified analytes in samples are reported as estimated, not detected (UJ) at the Limit of Detection (LOD).

Automated Data Review Detail Report for 410-11806-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Detected Results

--No Records Found--

Rejected Results

Test Method: M8315A Extraction Method: NONE Leach Method: NONE

FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-MW16-A-AUG2020	410-11806-1	S	N	Hydrazine	0.120	0.0500 U J1 M	0.0500 X	ng/g	M

Automated Data Review Detail Report for 410-11806-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
M8315A/NONE/NONE	1	3

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
M8315A/NONE/NONE	NHFLA-EB4-AUG2020	EB	1	1,1-Dimethylhydrazine	0.630 U	0.310	0.630	1.00	0.8	ug/L
M8315A/NONE/NONE	NHFLA-EB4-AUG2020	EB	1	Hydrazine	0.500 U	0.130	0.500	0.630	0.5	ug/L
M8315A/NONE/NONE	NHFLA-EB4-AUG2020	EB	1	Methyl Hydrazine	0.630 U	0.310	0.630	1.00	0.8	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
C	LCS Recovery
H1	Test Hold Time
M	MS Recovery
TR	Trace Level Detect

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: M8315A (Determination of Hydrazine, Monomethylhydrazine, and 1,1- Dimethylhydrazine in Aqueous and Soil Samples by LC/MS/MS)

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch 37524 high bias for 1,1-dimethylhydrazine. Qualification of field results not required (all ND).
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -001 MS/MSD recovery low bias for hydrazine below reject criteria. Sample -001 hydrazine results qualified rejected with X/M flag/reason codes. MSD recovery only biased low for monomethylhydrazine so sample -001 result for this analyte qualified estimated with UJ/M flag/reason codes.
Was the MS/MSD RPD within project acceptance limits?	•			
Were surrogate recoveries within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?	•			Sample -001 Hydrazine result based on MS recovery outlier.

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	410-11807-1_52_2a_FUDSChem
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	November 05, 2020

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	M8315A
NHFLA-MW7OB-A-AUG2020	410-11807-3	Solid	Field Sample/N	X
NHFLA-MW7OB-B-AUG2020	410-11807-4	Solid	Field Sample/N	X
NHFLA-MW7OB-C-AUG2020	410-11807-5	Solid	Field Sample/N	X
NHFLA-MW9OB-A-AUG2020	410-11807-1	Solid	Field Sample/N	X
NHFLA-MW9OB-B-AUG2020	410-11807-2	Solid	Field Sample/N	X
NHFLA-EB3-AUG2020	410-11807-6	Water	Equipment Blank/EB	X

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA and were reported under sample delivery group (SDG) 410-11807-1_52_2a_FUDSChem. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Lab Blank
- LCS Recovery
- LCS RPD
- Prep Hold Time
- Test Hold Time

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 0 results (0.00%) out of the 18 results (sample and field QC samples) reported are qualified based on review and 0 results (0.00%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Data included in SDG SN7037

Analytical Method	Data Reviewer Comment
M8315A	No additional comments; see Checklist for detail.

Jim Tomalia

January 12, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method M8315A, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
LCS 410-37524/2-A (BS)/ LCS 410-37524/2-A	1,1-Dimethylhydrazine	135.7	70 - 135	10 - 135	percent	J/None	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method M8315A, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW7OB-A-AUG2020 (N)/ 410-11807-3		6.410	< 3	< 6	days	J/X	H1	Test Exceeds UCL
NHFLA-MW7OB-B-AUG2020 (N)/ 410-11807-4		6.390	< 3	< 6	days	J/X	H1	Test Exceeds UCL
NHFLA-MW7OB-C-AUG2020 (N)/ 410-11807-5		6.390	< 3	< 6	days	J/X	H1	Test Exceeds UCL
NHFLA-MW9OB-A-AUG2020 (N)/ 410-11807-1		6.480	< 3	< 6	days	J/X	H1	Test Exceeds UCL
NHFLA-MW9OB-B-AUG2020 (N)/ 410-11807-2		6.590	< 3	< 6	days	J/X	H1	Test Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Qualified Results

No results associated with this sample delivery group required qualification.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method M8315A

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW7OB-A-AUG2020	N	1,1-Dimethylhydrazine	0.120	0.0990 U	0.0990 X	0.0990 U	
NHFLA-MW7OB-A-AUG2020	N	Hydrazine	0.120	0.0500 U	0.0500 X	0.0500 U	
NHFLA-MW7OB-A-AUG2020	N	Methyl hydrazine	0.120	0.0990 U	0.0990 X	0.0990 U	
NHFLA-MW7OB-B-AUG2020	N	1,1-Dimethylhydrazine	0.120	0.100 U	0.100 X	0.100 U	
NHFLA-MW7OB-B-AUG2020	N	Hydrazine	0.120	0.0500 U	0.0500 X	0.0500 U	
NHFLA-MW7OB-B-AUG2020	N	Methyl hydrazine	0.120	0.100 U	0.100 X	0.100 U	
NHFLA-MW7OB-C-AUG2020	N	1,1-Dimethylhydrazine	0.120	0.0990 U	0.0990 X	0.0990 U	
NHFLA-MW7OB-C-AUG2020	N	Hydrazine	0.120	0.0500 U	0.0500 X	0.0500 U	
NHFLA-MW7OB-C-AUG2020	N	Methyl hydrazine	0.120	0.0990 U	0.0990 X	0.0990 U	
NHFLA-MW9OB-A-AUG2020	N	1,1-Dimethylhydrazine	0.130	0.100 U	0.100 X	0.100 U	
NHFLA-MW9OB-A-AUG2020	N	Hydrazine	0.130	0.0500 U	0.0500 X	0.0500 U	
NHFLA-MW9OB-A-AUG2020	N	Methyl hydrazine	0.130	0.100 U	0.100 X	0.100 U	
NHFLA-MW9OB-B-AUG2020	N	1,1-Dimethylhydrazine	0.130	0.100 U	0.100 X	0.100 U	
NHFLA-MW9OB-B-AUG2020	N	Hydrazine	0.130	0.0510 U	0.0510 X	0.0510 U	
NHFLA-MW9OB-B-AUG2020	N	Methyl hydrazine	0.130	0.100 U	0.100 X	0.100 U	

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Automated Data Review Detail Report for 410-11807-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Qualified Results

--No Records Found--

Detected Results

--No Records Found--

Rejected Results

--No Records Found--

Automated Data Review Detail Report for 410-11807-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
M8315A/NONE/NONE	1	3

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
M8315A/NONE/NONE	NHFLA-EB3-AUG2020	EB	1	1,1-Dimethylhydrazine	0.630 U	0.310	0.630	1.00	0.8	ug/L
M8315A/NONE/NONE	NHFLA-EB3-AUG2020	EB	1	Hydrazine	0.500 U	0.130	0.500	0.630	0.5	ug/L
M8315A/NONE/NONE	NHFLA-EB3-AUG2020	EB	1	Methyl Hydrazine	0.630 U	0.310	0.630	1.00	0.8	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
C	LCS Recovery
H1	Test Hold Time

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: M8315A (Determination of Hydrazine, Monomethylhydrazine, and 1,1- Dimethylhydrazine in Aqueous and Soil Samples by LC/MS/MS)

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			H1 qualifiers removed since samples prepped and analyzed within project criteria holding times.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch 37524 LCS had high bias for 1,1-dimethylhydrazine. Qualifications of field results not required (all ND).
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were surrogate recoveries within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	410-12240-1_52_2a_FUDSChem
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	November 06, 2020 - Re-submitted February 2021 - Review checklist correction made to S2AVEM 21. REV2 - 4/6/21 ADR rerun at DoD validator request and MS outlier table included in report. REV3/4 - 4/21,30/2021 - MS/MSD data "re-flag SDG" performed in FUDSChem and MS recovery/FD tables updated in DVR.

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	M8315A
NHFLA-DUP1-AUG2020	410-12240-7	Solid	Field Duplicate/FD	X
NHFLA-DUP2-AUG2020	410-12240-8	Solid	Field Duplicate/FD	X
NHFLA-MW15-A-AUG2020	410-12240-1	Solid	Field Sample/N	X
NHFLA-MW15-B-AUG2020	410-12240-2	Solid	Field Sample/N	X
NHFLA-MW15-C-AUG2020	410-12240-3	Solid	Field Sample/N	X
NHFLA-MW6-A-AUG2020	410-12240-4	Solid	Field Sample/N	X
NHFLA-MW6-B-AUG2020	410-12240-5	Solid	Field Sample/N	X
NHFLA-EB7-AUG2020	410-12240-6	Water	Equipment Blank/EB	X

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA and were reported under sample delivery group (SDG) 410-12240-1_52_2a_FUDSChem. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Field Duplicate RPD
- Lab Blank
- LCS Recovery
- LCS RPD
- MS Recovery
- MS RPD
- Prep Hold Time
- Test Hold Time

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 12 results (50.00%) out of the 24 results (sample and field QC samples) reported are qualified based on review and 8 results (33.33%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Reported as part of SDG SN7207.

Analytical Method	Data Reviewer Comment
M8315A	No additional comments; see Checklist for detail.

Jim Tomalia

April 30, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Matrix Spike/Matrix Spike Duplicate Data Summary
Multiple Events
C02NY0079-02, Nike BU 51/52, Launch Area

	Location ID		**NHFLA-MW15**							
	Field sample ID		**NHFLA-MS1-AUG2020**	**NHFLA-MS2-AUG2020**	**NHFLA-MSD1-AUG2020**		**NHFLA-MSD2-AUG2020**		**NHFLA-MW15-A-AUG2020**	**NHFLA-MW15-B-AUG2020**
	Lab Sample ID		410-12240-1MS	410-12240-2MS	410-12240-1MSD		410-12240-2MSD		410-12240-1	410-12240-2
	Sample Type		MS	MS	MSD		MSD		Parent	Parent
	Sample Date		8/26/20	8/26/20	8/26/20		8/26/20		8/26/20	8/26/20
	Analysis Information		1X	1X	1X		1X		1X	1X
410-12240-1_52_2a_FUDSChem										
Determination of Hydrazine, Monomethylhydrazine, and 1,1-Dimethylhydrazine in Aqueous and Soil Samples by LC/MS/MS (M8315A/NONE)	**Recovery Limit**	**RPD Limit**	**MS Percent Recovery**	**MS Percent Recovery**	**MSD Percent Recovery**	**RPD**	**MSD Percent Recovery**	**RPD**		
1,1-Dimethylhydrazine (ng/g)	86-124	30	17.7	62.8	19.0	8.41	65.3	3.36	0.120 UJ	0.120 UJ
Hydrazine (ng/g)	54-128	30	0.868	1.64	1.08	23.8	2.16	26.1	0.120 X	0.120 X
Methyl hydrazine (ng/g)	29-187	30	1.49	4.02	1.48	0.451	3.55	13.2	0.120 X	0.120 X

Notes:
Shaded cells identify any compounds that were outside the acceptable MS/MSD recovery limit.
Bold = Bolded result indicates positively identified compounds in the parent sample
µg/L = micrograms per liter
%R = percent re

Quality Control Outliers for test method M8315A, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS1-AUG2020 (MS)/ 410-12240-1MS	1,1-Dimethylhydrazine	17.70	86 - 124	10 - 124	percent	J/UJ	M	
NHFLA-MS1-AUG2020 (MS)/ 410-12240-1MS	Hydrazine	0.8678	54 - 128	10 - 128	percent	J/X	M	
NHFLA-MS1-AUG2020 (MS)/ 410-12240-1MS	Methyl hydrazine	1.493	29 - 187	10 - 187	percent	J/X	M	
NHFLA-MS2-AUG2020 (MS)/ 410-12240-2MS	1,1-Dimethylhydrazine	62.75	86 - 124	10 - 124	percent	J/UJ	M	
NHFLA-MS2-AUG2020 (MS)/ 410-12240-2MS	Hydrazine	1.644	54 - 128	10 - 128	percent	J/X	M	
NHFLA-MS2-AUG2020 (MS)/ 410-12240-2MS	Methyl hydrazine	4.020	29 - 187	10 - 187	percent	J/X	M	
NHFLA-MSD1-AUG2020 (SD)/ 410-12240-1MSD	1,1-Dimethylhydrazine	19.00	86 - 124	10 - 124	percent	J/UJ	M	
NHFLA-MSD1-AUG2020 (SD)/ 410-12240-1MSD	Hydrazine	1.083	54 - 128	10 - 128	percent	J/X	M	
NHFLA-MSD1-AUG2020 (SD)/ 410-12240-1MSD	Methyl hydrazine	1.480	29 - 187	10 - 187	percent	J/X	M	
NHFLA-MSD2-AUG2020 (SD)/ 410-12240-2MSD	1,1-Dimethylhydrazine	65.34	86 - 124	10 - 124	percent	J/UJ	M	
NHFLA-MSD2-AUG2020 (SD)/ 410-12240-2MSD	Hydrazine	2.159	54 - 128	10 - 128	percent	J/X	M	
NHFLA-MSD2-AUG2020 (SD)/ 410-12240-2MSD	Methyl hydrazine	3.547	29 - 187	10 - 187	percent	J/X	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for M8315A

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP1-AUG2020	FD	1,1-Dimethylhydrazine	0.120	0.0990 U	0.0990 UJ		ng/g	M
NHFLA-DUP1-AUG2020	FD	Hydrazine	0.120	0.0500 U	0.0500 X		ng/g	M
NHFLA-DUP1-AUG2020	FD	Methyl hydrazine	0.120	0.0990 U	0.0990 X		ng/g	M
NHFLA-DUP2-AUG2020	FD	1,1-Dimethylhydrazine	0.120	0.0980 U	0.0980 UJ		ng/g	M
NHFLA-DUP2-AUG2020	FD	Hydrazine	0.120	0.0490 U	0.0490 X		ng/g	M
NHFLA-DUP2-AUG2020	FD	Methyl hydrazine	0.120	0.0980 U	0.0980 X		ng/g	M
NHFLA-MW15-A-AUG2020	N	1,1-Dimethylhydrazine	0.120	0.100 U J1	0.100 UJ		ng/g	M
NHFLA-MW15-A-AUG2020	N	Hydrazine	0.120	0.0500 U J1	0.0500 X		ng/g	M
NHFLA-MW15-A-AUG2020	N	Methyl hydrazine	0.120	0.100 U J1	0.100 X		ng/g	M
NHFLA-MW15-B-AUG2020	N	1,1-Dimethylhydrazine	0.120	0.0990 U J1	0.0990 UJ		ng/g	M

Qualified Results associated with the MS Recovery for M8315A

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW15-B-AUG2020	N	Hydrazine	0.120	0.0500 U J1	0.0500 X		ng/g	M
NHFLA-MW15-B-AUG2020	N	Methyl hydrazine	0.120	0.0990 U J1	0.0990 X		ng/g	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Field Duplicate Report By SDG
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
Field Duplicates for SDG: 410-12240-1_52_2a_FUDSChem

Location	Analysis
NHFLA-MW15	M8315A

Field ID - Primary/Field Dup	Lab ID - Primary/Field Dup	Analyte	Primary Result	FD Result	RL	RPD	RPD Criteria	RPD Check	RL Check
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	410-12240-1 / 410-12240-7	1,1-Dimethylhydrazine	ND	ND	0.120	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	410-12240-2 / 410-12240-8	1,1-Dimethylhydrazine	ND	ND	0.120	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	410-12240-1 / 410-12240-7	Hydrazine	ND	ND	0.120	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	410-12240-2 / 410-12240-8	Hydrazine	ND	ND	0.120	NA	50	NA	OK
NHFLA-MW15-A-AUG2020 / NHFLA-DUP1-AUG2020	410-12240-1 / 410-12240-7	Methyl hydrazine	ND	ND	0.120	NA	50	NA	OK
NHFLA-MW15-B-AUG2020 / NHFLA-DUP2-AUG2020	410-12240-2 / 410-12240-8	Methyl hydrazine	ND	ND	0.120	NA	50	NA	OK

FD = Field Duplicate
RL = Reporting Limit
RPD = Relative Percent Difference

RL Check = If either the primary sample or field duplicate result is less than 5 times the RL then the criteria used to determine if the field duplicate is outside QC limits is +/- RL for Water and +/- 2 times RL for Soil"

Table of Results with Modified Qualifiers

Modified Qualifiers for test method M8315A

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP1-AUG2020	FD	1,1-Dimethylhydrazine	0.120	0.0990 U	0.0990 U	0.0990 UJ	M
NHFLA-DUP1-AUG2020	FD	Hydrazine	0.120	0.0500 U	0.0500 U	0.0500 X	M
NHFLA-DUP1-AUG2020	FD	Methyl hydrazine	0.120	0.0990 U	0.0990 U	0.0990 X	M
NHFLA-DUP2-AUG2020	FD	1,1-Dimethylhydrazine	0.120	0.0980 U	0.0980 U	0.0980 UJ	M
NHFLA-DUP2-AUG2020	FD	Hydrazine	0.120	0.0490 U	0.0490 U	0.0490 X	M
NHFLA-DUP2-AUG2020	FD	Methyl hydrazine	0.120	0.0980 U	0.0980 U	0.0980 X	M
NHFLA-MW15-A-AUG2020	N	1,1-Dimethylhydrazine	0.120	0.100 U J1	0.100 U	0.100 UJ	M
NHFLA-MW15-A-AUG2020	N	Hydrazine	0.120	0.0500 U J1	0.0500 U	0.0500 X	M
NHFLA-MW15-A-AUG2020	N	Methyl hydrazine	0.120	0.100 U J1	0.100 U	0.100 X	M
NHFLA-MW15-B-AUG2020	N	1,1-Dimethylhydrazine	0.120	0.0990 U J1	0.0990 U	0.0990 UJ	M
NHFLA-MW15-B-AUG2020	N	Hydrazine	0.120	0.0500 U J1	0.0500 U	0.0500 X	M
NHFLA-MW15-B-AUG2020	N	Methyl hydrazine	0.120	0.0990 U J1	0.0990 U	0.0990 X	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Qualified Results

Test Method: M8315A Extraction Method: NONE Leach Method: NONE

FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP1-AUG2020	410-12240-7	S	FD	1,1-Dimethylhydrazine	0.120	0.0990 U	0.0990 UJ		ng/g	M
NHFLA-DUP1-AUG2020	410-12240-7	S	FD	Hydrazine	0.120	0.0500 U	0.0500 X		ng/g	M
NHFLA-DUP1-AUG2020	410-12240-7	S	FD	Methyl hydrazine	0.120	0.0990 U	0.0990 X		ng/g	M
NHFLA-DUP2-AUG2020	410-12240-8	S	FD	1,1-Dimethylhydrazine	0.120	0.0980 U	0.0980 UJ		ng/g	M
NHFLA-DUP2-AUG2020	410-12240-8	S	FD	Hydrazine	0.120	0.0490 U	0.0490 X		ng/g	M
NHFLA-DUP2-AUG2020	410-12240-8	S	FD	Methyl hydrazine	0.120	0.0980 U	0.0980 X		ng/g	M
NHFLA-MW15-A-AUG2020	410-12240-1	S	N	1,1-Dimethylhydrazine	0.120	0.100 U J1	0.100 UJ		ng/g	M
NHFLA-MW15-A-AUG2020	410-12240-1	S	N	Hydrazine	0.120	0.0500 U J1	0.0500 X		ng/g	M
NHFLA-MW15-A-AUG2020	410-12240-1	S	N	Methyl hydrazine	0.120	0.100 U J1	0.100 X		ng/g	M
NHFLA-MW15-B-AUG2020	410-12240-2	S	N	1,1-Dimethylhydrazine	0.120	0.0990 U J1	0.0990 UJ		ng/g	M
NHFLA-MW15-B-AUG2020	410-12240-2	S	N	Hydrazine	0.120	0.0500 U J1	0.0500 X		ng/g	M
NHFLA-MW15-B-AUG2020	410-12240-2	S	N	Methyl hydrazine	0.120	0.0990 U J1	0.0990 X		ng/g	M

Qualified analytes in samples are reported as estimated, not detected (UJ) at the Limit of Detection (LOD).

Automated Data Review Detail Report for 410-12240-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Detected Results

--No Records Found--

Rejected Results

Test Method: M8315A Extraction Method: NONE Leach Method: NONE

FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-DUP1-AUG2020	410-12240-7	S	FD	Hydrazine	0.120	0.0500 U	0.0500 X	ng/g	M
NHFLA-DUP1-AUG2020	410-12240-7	S	FD	Methyl hydrazine	0.120	0.0990 U	0.0990 X	ng/g	M
NHFLA-DUP2-AUG2020	410-12240-8	S	FD	Hydrazine	0.120	0.0490 U	0.0490 X	ng/g	M
NHFLA-DUP2-AUG2020	410-12240-8	S	FD	Methyl hydrazine	0.120	0.0980 U	0.0980 X	ng/g	M
NHFLA-MW15-A-AUG2020	410-12240-1	S	N	Hydrazine	0.120	0.0500 U J1	0.0500 X	ng/g	M
NHFLA-MW15-A-AUG2020	410-12240-1	S	N	Methyl hydrazine	0.120	0.100 U J1	0.100 X	ng/g	M
NHFLA-MW15-B-AUG2020	410-12240-2	S	N	Hydrazine	0.120	0.0500 U J1	0.0500 X	ng/g	M
NHFLA-MW15-B-AUG2020	410-12240-2	S	N	Methyl hydrazine	0.120	0.0990 U J1	0.0990 X	ng/g	M

Automated Data Review Detail Report for 410-12240-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
M8315A/NONE/NONE	1	3

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
M8315A/NONE/NONE	NHFLA-EB7-AUG2020	EB	1	1,1-Dimethylhydrazine	0.630 U	0.310	0.630	1.00	0.8	ug/L
M8315A/NONE/NONE	NHFLA-EB7-AUG2020	EB	1	Hydrazine	0.500 U	0.130	0.500	0.630	0.5	ug/L
M8315A/NONE/NONE	NHFLA-EB7-AUG2020	EB	1	Methyl Hydrazine	0.630 U	0.310	0.630	1.00	0.8	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
M	MS Recovery
TR	Trace Level Detect

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: M8315A (Determination of Hydrazine, Monomethylhydrazine, and 1,1- Dimethylhydrazine in Aqueous and Soil Samples by LC/MS/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -001 and -002 MS recoveries biased low below reject criteria for hydrazine and methylhydrazine and biased low but above reject criteria for 1,1-dimethylhydrazine. Samples -001, -002, -007, -008 hydrazine and methylhydrazine results qualified rejected with X/M flags/reason codes and 1,1-dimethylhydrazine results for these samples estimated with UJ/M flags/reason codes.
Was the MS/MSD RPD within project acceptance limits?	•			
Were surrogate recoveries within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?	•			Based on MS recoveries below reject criteria: hydrazine and methylhydrazine for samples - 001, -002, -007, -008.

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	410-12373-1_52_2a_FUDSChem
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	November 06, 2020

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	M8315A
NHFLA-MW2-A-AUG2020	410-12373-1	Solid	Field Sample/N	X
NHFLA-MW2-B-AUG2020	410-12373-2	Solid	Field Sample/N	X
NHFLA-EB5-AUG2020	410-12373-3	Water	Equipment Blank/EB	X

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA and were reported under sample delivery group (SDG) 410-12373-1_52_2a_FUDSChem. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Lab Blank
- LCS Recovery
- LCS RPD
- Prep Hold Time
- Test Hold Time

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 9 results (100.00%) out of the 9 results (sample and field QC samples) reported are qualified based on review and 0 results (0.00%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Reported as part of SDG SN7117

Analytical Method	Data Reviewer Comment
M8315A	No additional comments; see Checklist for detail.

Jim Tomalia

January 12, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method M8315A, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW2-A-AUG2020 (N)/ 410-12373-1		8.190	< 3	< 6	days	J/X	H1	Test Exceeds UCL
NHFLA-MW2-B-AUG2020 (N)/ 410-12373-2		8.180	< 3	< 6	days	J/X	H1	Test Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Qualified Results

No results associated with this sample delivery group required qualification.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method M8315A

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB5-AUG2020	EB	1,1-Dimethylhydrazine	1.00	0.630 U	0.630 U	0.630 UJ	U
NHFLA-EB5-AUG2020	EB	Hydrazine	0.630	0.500 U	0.500 U	0.500 UJ	U
NHFLA-EB5-AUG2020	EB	Methyl hydrazine	1.00	0.630 U	0.630 U	0.630 UJ	U
NHFLA-MW2-A-AUG2020	N	1,1-Dimethylhydrazine	0.120	0.0990 U	0.0990 X	0.0990 UJ	U
NHFLA-MW2-A-AUG2020	N	Hydrazine	0.120	0.0490 U	0.0490 X	0.0490 UJ	U
NHFLA-MW2-A-AUG2020	N	Methyl hydrazine	0.120	0.0990 U	0.0990 X	0.0990 UJ	U
NHFLA-MW2-B-AUG2020	N	1,1-Dimethylhydrazine	0.120	0.100 U	0.100 X	0.100 UJ	U
NHFLA-MW2-B-AUG2020	N	Hydrazine	0.120	0.0500 U	0.0500 X	0.0500 UJ	U
NHFLA-MW2-B-AUG2020	N	Methyl hydrazine	0.120	0.100 U	0.100 X	0.100 UJ	U

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Automated Data Review Detail Report for 410-12373-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

QC Outlier Report

Test Method: M8315A Extraction Method: NONE Leach Method: NONE

QC Element	Sample ID/ Lab Sample ID	Run#/ Dil'n	Analyte	Result (Units)	Qualifier	Warning Limits	Control Limits	Reason	Comment	Rule	Action Level
Test Hold Time	NHFLA-MW2-A-AUG2020 (N) / 410-12373-1	1 / 1.00	All in Run	8.190 (days)	J/X	< 3	< 6	H1	Test Exceeds UCL		
Test Hold Time	NHFLA-MW2-B-AUG2020 (N) / 410-12373-2	1 / 1.00	All in Run	8.180 (days)	J/X	< 3	< 6	H1	Test Exceeds UCL		

Rule is the multiplier used when blank contamination occurs to determine action level.

Automated Data Review Detail Report for 410-12373-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Qualified Results

Test Method: M8315A Extraction Method: NONE Leach Method: NONE

FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB5-AUG2020	410-12373-3	W	EB	1,1-Dimethylhydrazine	1.00	0.630 U	0.630 UJ		ug/l	U
NHFLA-EB5-AUG2020	410-12373-3	W	EB	Hydrazine	0.630	0.500 U	0.500 UJ		ug/l	U
NHFLA-EB5-AUG2020	410-12373-3	W	EB	Methyl hydrazine	1.00	0.630 U	0.630 UJ		ug/l	U
NHFLA-MW2-A-AUG2020	410-12373-1	S	N	1,1-Dimethylhydrazine	0.120	0.0990 U	0.0990 UJ		ng/g	U
NHFLA-MW2-A-AUG2020	410-12373-1	S	N	Hydrazine	0.120	0.0490 U	0.0490 UJ		ng/g	U
NHFLA-MW2-A-AUG2020	410-12373-1	S	N	Methyl hydrazine	0.120	0.0990 U	0.0990 UJ		ng/g	U
NHFLA-MW2-B-AUG2020	410-12373-2	S	N	1,1-Dimethylhydrazine	0.120	0.100 U	0.100 UJ		ng/g	U
NHFLA-MW2-B-AUG2020	410-12373-2	S	N	Hydrazine	0.120	0.0500 U	0.0500 UJ		ng/g	U
NHFLA-MW2-B-AUG2020	410-12373-2	S	N	Methyl hydrazine	0.120	0.100 U	0.100 UJ		ng/g	U

Qualified analytes in samples are reported as estimated, not detected (UJ) at the Limit of Detection (LOD).

Automated Data Review Detail Report for 410-12373-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Detected Results

--No Records Found--

Rejected Results

--No Records Found--

Automated Data Review Detail Report for 410-12373-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
M8315A/NONE/NONE	1	3

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
M8315A/NONE/NONE	NHFLA-EB5-AUG2020	EB	1	1,1-Dimethylhydrazine	0.630 UJ	0.310	0.630	1.00	0.8	ug/L
M8315A/NONE/NONE	NHFLA-EB5-AUG2020	EB	1	Hydrazine	0.500 UJ	0.130	0.500	0.630	0.5	ug/L
M8315A/NONE/NONE	NHFLA-EB5-AUG2020	EB	1	Methyl Hydrazine	0.630 UJ	0.310	0.630	1.00	0.8	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
H1	Test Hold Time
U	Receipt Temperature

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: M8315A (Determination of Hydrazine, Monomethylhydrazine, and 1,1- Dimethylhydrazine in Aqueous and Soil Samples by LC/MS/MS)

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?		•		Sample receipt temperature 18C so all results qualified as estimated with UJ/U flags/reason codes.
Were holding times met?	•			H1 qualifiers removed since samples prepped and analyzed within project criteria holding times.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were surrogate recoveries within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	410-12376-1_52_2a_FUDSChem
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	November 06, 2020

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	M8315A
NHFLA-MW10-A-AUG2020	410-12376-1	Solid	Field Sample/N	X
NHFLA-MW10-B-AUG2020	410-12376-2	Solid	Field Sample/N	X
NHFLA-MW10-C-AUG2020	410-12376-3	Solid	Field Sample/N	X
NHFLA-EB6-AUG2020	410-12376-4	Water	Equipment Blank/EB	X

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA and were reported under sample delivery group (SDG) 410-12376-1_52_2a_FUDSChem. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Lab Blank
- LCS Recovery
- LCS RPD
- Prep Hold Time
- Test Hold Time

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 9 results (75.00%) out of the 12 results (sample and field QC samples) reported are qualified based on review and 0 results (0.00%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Data reported as part of SN7165 SDG.

Analytical Method	Data Reviewer Comment
M8315A	No additional comments; see Checklist for detail.

Jim Tomalia

January 12, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method M8315A, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW10-A-AUG2020 (N)/ 410-12376-1		7.120	< 3	< 6	days	J/X	H1	Test Exceeds UCL
NHFLA-MW10-B-AUG2020 (N)/ 410-12376-2		7.110	< 3	< 6	days	J/X	H1	Test Exceeds UCL
NHFLA-MW10-C-AUG2020 (N)/ 410-12376-3		7.090	< 3	< 6	days	J/X	H1	Test Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Qualified Results

No results associated with this sample delivery group required qualification.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method M8315A

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW10-A-AUG2020	N	1,1-Dimethylhydrazine	0.130	0.100 U	0.100 X	0.100 UJ	U
NHFLA-MW10-A-AUG2020	N	Hydrazine	0.130	0.0500 U	0.0500 X	0.0500 UJ	U
NHFLA-MW10-A-AUG2020	N	Methyl hydrazine	0.130	0.100 U	0.100 X	0.100 UJ	U
NHFLA-MW10-B-AUG2020	N	1,1-Dimethylhydrazine	0.120	0.100 U M	0.100 X	0.100 UJ	U
NHFLA-MW10-B-AUG2020	N	Hydrazine	0.120	0.0500 U	0.0500 X	0.0500 UJ	U
NHFLA-MW10-B-AUG2020	N	Methyl hydrazine	0.120	0.100 U	0.100 X	0.100 UJ	U
NHFLA-MW10-C-AUG2020	N	1,1-Dimethylhydrazine	0.120	0.0990 U	0.0990 X	0.0990 UJ	U
NHFLA-MW10-C-AUG2020	N	Hydrazine	0.120	0.0500 U	0.0500 X	0.0500 UJ	U
NHFLA-MW10-C-AUG2020	N	Methyl hydrazine	0.120	0.0990 U	0.0990 X	0.0990 UJ	U

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Automated Data Review Detail Report for 410-12376-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Qualified Results

Test Method: M8315A Extraction Method: NONE Leach Method: NONE

FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW10-A-AUG2020	410-12376-1	S	N	1,1-Dimethylhydrazine	0.130	0.100 U	0.100 UJ		ng/g	U
NHFLA-MW10-A-AUG2020	410-12376-1	S	N	Hydrazine	0.130	0.0500 U	0.0500 UJ		ng/g	U
NHFLA-MW10-A-AUG2020	410-12376-1	S	N	Methyl hydrazine	0.130	0.100 U	0.100 UJ		ng/g	U
NHFLA-MW10-B-AUG2020	410-12376-2	S	N	1,1-Dimethylhydrazine	0.120	0.100 U M	0.100 UJ		ng/g	U
NHFLA-MW10-B-AUG2020	410-12376-2	S	N	Hydrazine	0.120	0.0500 U	0.0500 UJ		ng/g	U
NHFLA-MW10-B-AUG2020	410-12376-2	S	N	Methyl hydrazine	0.120	0.100 U	0.100 UJ		ng/g	U
NHFLA-MW10-C-AUG2020	410-12376-3	S	N	1,1-Dimethylhydrazine	0.120	0.0990 U	0.0990 UJ		ng/g	U
NHFLA-MW10-C-AUG2020	410-12376-3	S	N	Hydrazine	0.120	0.0500 U	0.0500 UJ		ng/g	U
NHFLA-MW10-C-AUG2020	410-12376-3	S	N	Methyl hydrazine	0.120	0.0990 U	0.0990 UJ		ng/g	U

Qualified analytes in samples are reported as estimated, not detected (UJ) at the Limit of Detection (LOD).

Automated Data Review Detail Report for 410-12376-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Detected Results

--No Records Found--

Rejected Results

--No Records Found--

Automated Data Review Detail Report for 410-12376-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
M8315A/NONE/NONE	1	3

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
M8315A/NONE/NONE	NHFLA-EB6-AUG2020	EB	1	1,1-Dimethylhydrazine	0.630 U	0.310	0.630	1.00	0.8	ug/L
M8315A/NONE/NONE	NHFLA-EB6-AUG2020	EB	1	Hydrazine	0.500 U	0.130	0.500	0.630	0.5	ug/L
M8315A/NONE/NONE	NHFLA-EB6-AUG2020	EB	1	Methyl Hydrazine	0.630 U	0.310	0.630	1.00	0.8	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
H1	Test Hold Time
U	Receipt Temperature

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: M8315A (Determination of Hydrazine, Monomethylhydrazine, and 1,1- Dimethylhydrazine in Aqueous and Soil Samples by LC/MS/MS)

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?		•		Sample receipt temperature elevated at 18C. All samples qualified estimated with UJ/U flags/reason codes.
Were holding times met?	•			
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were surrogate recoveries within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	410-12746-1_52_2a_FUDSChem
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	November 06, 2020

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	M8315A
NHFLA-MW13-A-AUG2020	410-12746-1	Solid	Field Sample/N	X
NHFLA-MW13-B-AUG2020	410-12746-2	Solid	Field Sample/N	X
NHFLA-MW13-C-AUG2020	410-12746-3	Solid	Field Sample/N	X
NHFLA-EB8-AUG2020	410-12746-4	Water	Equipment Blank/EB	X

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA and were reported under sample delivery group (SDG) 410-12746-1_52_2a_FUDSChem. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Lab Blank
- LCS Recovery
- LCS RPD
- Prep Hold Time
- Test Hold Time

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 0 results (0.00%) out of the 12 results (sample and field QC samples) reported are qualified based on review and 0 results (0.00%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Reported as part of SDG SN7239

Analytical Method	Data Reviewer Comment
M8315A	No additional comments; see Checklist for detail.

Jim Tomalia

January 12, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method M8315A, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
LCS 410-40694/2-A (BS)/ LCS 410-40694/2-A	1,1-Dimethylhydrazine	135.5	70 - 135	10 - 135	percent	J/None	C	
LCS 410-40709/2-A (BS)/ LCS 410-40709/2-A	1,1-Dimethylhydrazine	124.7	86 - 124	10 - 124	percent	J/None	C	
LCSD 410-40709/3-A (BD)/ LCSD 410-40709/3-A	1,1-Dimethylhydrazine	125.3	86 - 124	10 - 124	percent	J/None	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method M8315A, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW13-A-AUG2020 (N)/ 410-12746-1		7.460	< 3	< 6	days	J/X	H1	Test Exceeds UCL
NHFLA-MW13-B-AUG2020 (N)/ 410-12746-2		7.440	< 3	< 6	days	J/X	H1	Test Exceeds UCL
NHFLA-MW13-C-AUG2020 (N)/ 410-12746-3		7.400	< 3	< 6	days	J/X	H1	Test Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Qualified Results

No results associated with this sample delivery group required qualification.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method M8315A

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW13-A-AUG2020	N	1,1-Dimethylhydrazine	0.130	0.100 U Q	0.100 X	0.100 U	
NHFLA-MW13-A-AUG2020	N	Hydrazine	0.130	0.0500 U	0.0500 X	0.0500 U	
NHFLA-MW13-A-AUG2020	N	Methyl hydrazine	0.130	0.100 U	0.100 X	0.100 U	
NHFLA-MW13-B-AUG2020	N	1,1-Dimethylhydrazine	0.130	0.100 U Q	0.100 X	0.100 U	
NHFLA-MW13-B-AUG2020	N	Hydrazine	0.130	0.0500 U	0.0500 X	0.0500 U	
NHFLA-MW13-B-AUG2020	N	Methyl hydrazine	0.130	0.100 U	0.100 X	0.100 U	
NHFLA-MW13-C-AUG2020	N	1,1-Dimethylhydrazine	0.120	0.100 U Q	0.100 X	0.100 U	
NHFLA-MW13-C-AUG2020	N	Hydrazine	0.120	0.0500 U	0.0500 X	0.0500 U	
NHFLA-MW13-C-AUG2020	N	Methyl hydrazine	0.120	0.100 U	0.100 X	0.100 U	

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Automated Data Review Detail Report for 410-12746-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

QC Outlier Report

Test Method: M8315A Extraction Method: NONE Leach Method: NONE

QC Element	Sample ID/ Lab Sample ID	Run#/ Dil'n	Analyte	Result (Units)	Qualifier	Warning Limits	Control Limits	Reason	Comment	Rule	Action Level
LCS Recovery	LCS 410-40694/2-A (BS) / LCS 410-40694/2-A	1 / 1.00	1,1-Dimethylhydrazine	135.5 (percent)	J/None	70 - 135	10 - 135	C			
LCS Recovery	LCS 410-40709/2-A (BS) / LCS 410-40709/2-A	1 / 1.00	1,1-Dimethylhydrazine	124.7 (percent)	J/None	86 - 124	10 - 124	C			
LCS Recovery	LCSD 410-40709/3-A (BD) / LCSD 410-40709/3-A	1 / 1.00	1,1-Dimethylhydrazine	125.3 (percent)	J/None	86 - 124	10 - 124	C			
Test Hold Time	NHFLA-MW13-A-AUG2020 (N) / 410-12746-1	1 / 1.00	All in Run	7.460 (days)	J/X	< 3	< 6	H1	Test Exceeds UCL		
Test Hold Time	NHFLA-MW13-B-AUG2020 (N) / 410-12746-2	1 / 1.00	All in Run	7.440 (days)	J/X	< 3	< 6	H1	Test Exceeds UCL		
Test Hold Time	NHFLA-MW13-C-AUG2020 (N) / 410-12746-3	1 / 1.00	All in Run	7.400 (days)	J/X	< 3	< 6	H1	Test Exceeds UCL		

Rule is the multiplier used when blank contamination occurs to determine action level.

Automated Data Review Detail Report for 410-12746-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Qualified Results

--No Records Found--

Detected Results

--No Records Found--

Rejected Results

--No Records Found--

Automated Data Review Detail Report for 410-12746-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
M8315A/NONE/NONE	1	3

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
M8315A/NONE/NONE	NHFLA-EB8-AUG2020	EB	1	1,1-Dimethylhydrazine	0.630 U	0.310	0.630	1.00	0.8	ug/L
M8315A/NONE/NONE	NHFLA-EB8-AUG2020	EB	1	Hydrazine	0.500 U	0.130	0.500	0.630	0.5	ug/L
M8315A/NONE/NONE	NHFLA-EB8-AUG2020	EB	1	Methyl Hydrazine	0.630 U	0.310	0.630	1.00	0.8	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
C	LCS Recovery
H1	Test Hold Time

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: M8315A (Determination of Hydrazine, Monomethylhydrazine, and 1,1- Dimethylhydrazine in Aqueous and Soil Samples by LC/MS/MS)

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			H1 qualifiers removed since samples prepped and analyzed within project criteria holding times.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch 40709 LCS/LCSD biased high for 1,1-dimethylhydrazine. Qualifications of field results not required since all associated were non-detect.
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were surrogate recoveries within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	410-12747-1_52_2a_FUDSChem
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	November 19, 2020

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	M8315A
NHFLA-DUP3-AUG2020	410-12747-3	Solid	Field Duplicate/FD	X
NHFLA-DUP4-AUG2020	410-12747-4	Solid	Field Duplicate/FD	X
NHFLA-MW3-A-AUG2020	410-12747-1	Solid	Field Sample/N	X
NHFLA-MW3-B-AUG2020	410-12747-2	Solid	Field Sample/N	X
NHFLA-EB9-AUG2020	410-12747-5	Water	Equipment Blank/EB	X

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA and were reported under sample delivery group (SDG) 410-12747-1_52_2a_FUDSChem. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Field Duplicate RPD
- Lab Blank
- LCS Recovery
- LCS RPD
- MS Recovery
- MS RPD
- Prep Hold Time
- Test Hold Time

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 6 results (40.00%) out of the 15 results (sample and field QC samples) reported are qualified based on review and 4 results (26.67%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Reported as part of SDG SN7314.

Analytical Method	Data Reviewer Comment
M8315A	No additional comments; see Checklist for detail.

Jim Tomalia

January 12, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method M8315A, LCS Recovery

The laboratory control sample/laboratory control sample duplicate (LCS/LCSD) serves as a monitor of the overall performance of each step during the analysis, including the sample preparation. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
LCS 410-40694/2-A (BS)/ LCS 410-40694/2-A	1,1-Dimethylhydrazine	135.5	70 - 135	10 - 135	percent	J/None	C	
LCS 410-40709/2-A (BS)/ LCS 410-40709/2-A	1,1-Dimethylhydrazine	124.7	86 - 124	10 - 124	percent	J/None	C	
LCSD 410-40709/3-A (BD)/ LCSD 410-40709/3-A	1,1-Dimethylhydrazine	125.3	86 - 124	10 - 124	percent	J/None	C	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Quality Control Outliers for test method M8315A, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MS3-AUG2020 (MS)/ 410-12747-4MS	Hydrazine	2.624	54 - 128	10 - 128	percent	J/X	M	
NHFLA-MS3-AUG2020 (MS)/ 410-12747-4MS	Methyl hydrazine	3.322	29 - 187	10 - 187	percent	J/X	M	
NHFLA-MS3-AUG2020 (MS)/ 410-12747-4MS	1,1-Dimethylhydrazine	59.46	86 - 124	10 - 124	percent	J/UJ	M	
NHFLA-MSD3-AUG2020 (SD)/ 410-12747-4MSD	Hydrazine	2.169	54 - 128	10 - 128	percent	J/X	M	
NHFLA-MSD3-AUG2020 (SD)/ 410-12747-4MSD	Methyl hydrazine	3.238	29 - 187	10 - 187	percent	J/X	M	
NHFLA-MSD3-AUG2020 (SD)/ 410-12747-4MSD	1,1-Dimethylhydrazine	69.54	86 - 124	10 - 124	percent	J/UJ	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for M8315A

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP4-AUG2020	FD	1,1-Dimethylhydrazine	0.130	0.100 U Q J1	0.100 UJ		ng/g	M
NHFLA-DUP4-AUG2020	FD	Hydrazine	0.130	0.0510 U J1	0.0510 X		ng/g	M
NHFLA-DUP4-AUG2020	FD	Methyl hydrazine	0.130	0.100 U J1	0.100 X		ng/g	M
NHFLA-MW3-B-AUG2020	N	1,1-Dimethylhydrazine	0.120	0.0990 U Q	0.0990 UJ		ng/g	M
NHFLA-MW3-B-AUG2020	N	Hydrazine	0.120	0.0500 U	0.0500 X		ng/g	M
NHFLA-MW3-B-AUG2020	N	Methyl hydrazine	0.120	0.0990 U	0.0990 X		ng/g	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method M8315A, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-DUP3-AUG2020 (FD)/ 410-12747-3		3.510	< 3	< 6	days	J/UJ	H1	Test Exceeds UWL
NHFLA-DUP4-AUG2020 (FD)/ 410-12747-4		3.510	< 3	< 6	days	J/UJ	H1	Test Exceeds UWL
NHFLA-MW3-A-AUG2020 (N)/ 410-12747-1		3.500	< 3	< 6	days	J/UJ	H1	Test Exceeds UWL
NHFLA-MW3-B-AUG2020 (N)/ 410-12747-2		3.480	< 3	< 6	days	J/UJ	H1	Test Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Table of All Qualified Results

Test Method: M8315A	Extraction Method: NONE							
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP4-AUG2020	FD	1,1-Dimethylhydrazine	0.130	0.100 U Q J1	0.100 UJ		ng/g	M
NHFLA-DUP4-AUG2020	FD	Hydrazine	0.130	0.0510 U J1	0.0510 X		ng/g	M
NHFLA-DUP4-AUG2020	FD	Methyl hydrazine	0.130	0.100 U J1	0.100 X		ng/g	M
NHFLA-MW3-B-AUG2020	N	1,1-Dimethylhydrazine	0.120	0.0990 U Q	0.0990 UJ		ng/g	M
NHFLA-MW3-B-AUG2020	N	Hydrazine	0.120	0.0500 U	0.0500 X		ng/g	M
NHFLA-MW3-B-AUG2020	N	Methyl hydrazine	0.120	0.0990 U	0.0990 X		ng/g	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method M8315A

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP3-AUG2020	FD	1,1-Dimethylhydrazine	0.130	0.100 U Q	0.100 UJ	0.100 U	
NHFLA-DUP3-AUG2020	FD	Hydrazine	0.130	0.0510 U	0.0510 UJ	0.0510 U	
NHFLA-DUP3-AUG2020	FD	Methyl hydrazine	0.130	0.100 U	0.100 UJ	0.100 U	
NHFLA-DUP4-AUG2020	FD	1,1-Dimethylhydrazine	0.130	0.100 U Q J1	0.100 UJ	0.100 UJ	M
NHFLA-DUP4-AUG2020	FD	Hydrazine	0.130	0.0510 U J1	0.0510 X	0.0510 X	M
NHFLA-DUP4-AUG2020	FD	Methyl hydrazine	0.130	0.100 U J1	0.100 X	0.100 X	M
NHFLA-MW3-A-AUG2020	N	1,1-Dimethylhydrazine	0.130	0.100 U Q	0.100 UJ	0.100 U	
NHFLA-MW3-A-AUG2020	N	Hydrazine	0.130	0.0500 U	0.0500 UJ	0.0500 U	
NHFLA-MW3-A-AUG2020	N	Methyl hydrazine	0.130	0.100 U	0.100 UJ	0.100 U	
NHFLA-MW3-B-AUG2020	N	1,1-Dimethylhydrazine	0.120	0.0990 U Q	0.0990 UJ	0.0990 UJ	M
NHFLA-MW3-B-AUG2020	N	Hydrazine	0.120	0.0500 U	0.0500 X	0.0500 X	M
NHFLA-MW3-B-AUG2020	N	Methyl hydrazine	0.120	0.0990 U	0.0990 X	0.0990 X	M

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Automated Data Review Detail Report for 410-12747-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

QC Outlier Report

Test Method: M8315A Extraction Method: NONE Leach Method: NONE

QC Element	Sample ID/ Lab Sample ID	Run#/ Dil'n	Analyte	Result (Units)	Qualifier	Warning Limits	Control Limits	Reason	Comment	Rule	Action Level
LCS Recovery	LCS 410-40694/2-A (BS) / LCS 410-40694/2-A	1 / 1.00	1,1-Dimethylhydrazine	135.5 (percent)	J/None	70 - 135	10 - 135	C			
LCS Recovery	LCS 410-40709/2-A (BS) / LCS 410-40709/2-A	1 / 1.00	1,1-Dimethylhydrazine	124.7 (percent)	J/None	86 - 124	10 - 124	C			
LCS Recovery	LCSD 410-40709/3-A (BD) / LCSD 410-40709/3-A	1 / 1.00	1,1-Dimethylhydrazine	125.3 (percent)	J/None	86 - 124	10 - 124	C			
MS Recovery	NHFLA-MS3-AUG2020 (MS) / 410-12747-4MS	1 / 1.00	1,1-Dimethylhydrazine	59.46 (percent)	J/UJ	86 - 124	10 - 124	M			
MS Recovery	NHFLA-MS3-AUG2020 (MS) / 410-12747-4MS	1 / 1.00	Hydrazine	2.624 (percent)	J/X	54 - 128	10 - 128	M			
MS Recovery	NHFLA-MS3-AUG2020 (MS) / 410-12747-4MS	1 / 1.00	Methyl hydrazine	3.322 (percent)	J/X	29 - 187	10 - 187	M			
MS Recovery	NHFLA-MSD3-AUG2020 (SD) / 410-12747-4MSD	1 / 1.00	1,1-Dimethylhydrazine	69.54 (percent)	J/UJ	86 - 124	10 - 124	M			
MS Recovery	NHFLA-MSD3-AUG2020 (SD) / 410-12747-4MSD	1 / 1.00	Hydrazine	2.169 (percent)	J/X	54 - 128	10 - 128	M			
MS Recovery	NHFLA-MSD3-AUG2020 (SD) / 410-12747-4MSD	1 / 1.00	Methyl hydrazine	3.238 (percent)	J/X	29 - 187	10 - 187	M			
Test Hold Time	NHFLA-DUP3-AUG2020 (FD) / 410-12747-3	1 / 1.00	All in Run	3.510 (days)	J/UJ	< 3	< 6	H1	Test Exceeds UWL		
Test Hold Time	NHFLA-DUP4-AUG2020 (FD) / 410-12747-4	1 / 1.00	All in Run	3.510 (days)	J/UJ	< 3	< 6	H1	Test Exceeds UWL		
Test Hold Time	NHFLA-MW3-A-AUG2020 (N) / 410-12747-1	1 / 1.00	All in Run	3.500 (days)	J/UJ	< 3	< 6	H1	Test Exceeds UWL		
Test Hold Time	NHFLA-MW3-B-AUG2020 (N) / 410-12747-2	1 / 1.00	All in Run	3.480 (days)	J/UJ	< 3	< 6	H1	Test Exceeds UWL		

Rule is the multiplier used when blank contamination occurs to determine action level.

Automated Data Review Detail Report for 410-12747-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Qualified Results

Test Method: M8315A Extraction Method: NONE Leach Method: NONE

FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-DUP4-AUG2020	410-12747-4	S	FD	1,1-Dimethylhydrazine	0.130	0.100 U Q J1	0.100 UJ		ng/g	M
NHFLA-DUP4-AUG2020	410-12747-4	S	FD	Hydrazine	0.130	0.0510 U J1	0.0510 X		ng/g	M
NHFLA-DUP4-AUG2020	410-12747-4	S	FD	Methyl hydrazine	0.130	0.100 U J1	0.100 X		ng/g	M
NHFLA-MW3-B-AUG2020	410-12747-2	S	N	1,1-Dimethylhydrazine	0.120	0.0990 U Q	0.0990 UJ		ng/g	M
NHFLA-MW3-B-AUG2020	410-12747-2	S	N	Hydrazine	0.120	0.0500 U	0.0500 X		ng/g	M
NHFLA-MW3-B-AUG2020	410-12747-2	S	N	Methyl hydrazine	0.120	0.0990 U	0.0990 X		ng/g	M

Qualified analytes in samples are reported as estimated, not detected (UJ) at the Limit of Detection (LOD).

Automated Data Review Detail Report for 410-12747-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Detected Results

--No Records Found--

Rejected Results

Test Method: M8315A Extraction Method: NONE Leach Method: NONE

FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-DUP4-AUG2020	410-12747-4	S	FD	Hydrazine	0.130	0.0510 U J1	0.0510 X	ng/g	M
NHFLA-DUP4-AUG2020	410-12747-4	S	FD	Methyl hydrazine	0.130	0.100 U J1	0.100 X	ng/g	M
NHFLA-MW3-B-AUG2020	410-12747-2	S	N	Hydrazine	0.120	0.0500 U	0.0500 X	ng/g	M
NHFLA-MW3-B-AUG2020	410-12747-2	S	N	Methyl hydrazine	0.120	0.0990 U	0.0990 X	ng/g	M

Automated Data Review Detail Report for 410-12747-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
M8315A/NONE/NONE	1	3

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
M8315A/NONE/NONE	NHFLA-EB9-AUG2020	EB	1	1,1-Dimethylhydrazine	0.630 U	0.310	0.630	1.00	0.8	ug/L
M8315A/NONE/NONE	NHFLA-EB9-AUG2020	EB	1	Hydrazine	0.500 U	0.130	0.500	0.630	0.5	ug/L
M8315A/NONE/NONE	NHFLA-EB9-AUG2020	EB	1	Methyl Hydrazine	0.630 U	0.310	0.630	1.00	0.8	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
C	LCS Recovery
H1	Test Hold Time
M	MS Recovery
TR	Trace Level Detect

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: M8315A (Determination of Hydrazine, Monomethylhydrazine, and 1,1- Dimethylhydrazine in Aqueous and Soil Samples by LC/MS/MS)

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			H1 qualifiers removed since samples prepped and analyzed within project criteria holding times.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?		•		QC batch 40709 high bias for 1,1-dimethylhydrazine did not result in qualification of field results (all ND).
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -004 MS/MSD recoveries biased low below reject criteria for hydrazine and monomethylhydrazine. Sample -004 and its parent sample -002 qualified rejected with X/M flags/reason codes for these analytes. 1,1-Dimethylhydrazine MS/MSD recoveries biased low but above reject criteria so these sample -002, -004 results qualified estimated with UJ/M flags/reason codes.
Was the MS/MSD RPD within project acceptance limits?	•			
Were surrogate recoveries within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?	•			Samples -002 and -004 hydrazine and monomethylhydrazine based on MS recovery low bias outliers.

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	410-13059-1_52_2a_FUDSChem
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	November 06, 2020

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	M8315A
NHFLA-DUP5-SEP2020	410-13059-3	Solid	Field Duplicate/FD	X
NHFLA-MW4OB-A-SEP2020	410-13059-4	Solid	Field Sample/N	X
NHFLA-MW4OB-B-SEP2020	410-13059-5	Solid	Field Sample/N	X
NHFLA-MW8-A-SEP2020	410-13059-1	Solid	Field Sample/N	X
NHFLA-MW8-B-SEP2020	410-13059-2	Solid	Field Sample/N	X
NHFLA-EB10-SEP2020	410-13059-6	Water	Equipment Blank/EB	X

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA and were reported under sample delivery group (SDG) 410-13059-1_52_2a_FUDSChem. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Field Duplicate RPD
- Lab Blank
- LCS Recovery
- LCS RPD
- MS Recovery
- MS RPD
- Prep Hold Time
- Test Hold Time

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 3 results (16.67%) out of the 18 results (sample and field QC samples) reported are qualified based on review and 2 results (11.11%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Reported as part of SDG SN7357.

Analytical Method	Data Reviewer Comment
M8315A	No additional comments; see Checklist for detail.

Jim Tomalia

January 12, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method M8315A, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW8-A-SEP2020 (MS)/ 410-13059-1MS	Hydrazine	1.197	54 - 128	10 - 128	percent	J/X	M	
NHFLA-MW8-A-SEP2020 (MS)/ 410-13059-1MS	Methyl hydrazine	3.000	29 - 187	10 - 187	percent	J/X	M	
NHFLA-MW8-A-SEP2020 (MS)/ 410-13059-1MS	1,1-Dimethylhydrazine	78.67	86 - 124	10 - 124	percent	J/UJ	M	
NHFLA-MW8-A-SEP2020 (SD)/ 410-13059-1MSD	Hydrazine	1.168	54 - 128	10 - 128	percent	J/X	M	
NHFLA-MW8-A-SEP2020 (SD)/ 410-13059-1MSD	Methyl hydrazine	12.35	29 - 187	10 - 187	percent	J/UJ	M	
NHFLA-MW8-A-SEP2020 (SD)/ 410-13059-1MSD	1,1-Dimethylhydrazine	75.17	86 - 124	10 - 124	percent	J/UJ	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for M8315A

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW8-A-SEP2020	N	1,1-Dimethylhydrazine	0.120	0.0990 U J1	0.0990 UJ		ng/g	M
NHFLA-MW8-A-SEP2020	N	Hydrazine	0.120	0.0500 U J1	0.0500 X		ng/g	M
NHFLA-MW8-A-SEP2020	N	Methyl hydrazine	0.120	0.0990 U J1	0.0990 X		ng/g	M/D

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method M8315A, MS RPD

The objective of matrix spikes/matrix spike duplicates (MS/MSD) RPD analysis is to demonstrate acceptable method precision by the laboratory at the time of analysis. MS/MSD analyses are also performed to generate data that determines the long-term precision of the analytical method on various matrices. Non-homogenous samples can impact the apparent method precision. Summary forms were evaluated and compared to electronic data deliverables. Matrix spikes/matrix spike duplicates results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW8-A-SEP2020 (SD)/ 410-13059-1MSD	Methyl hydrazine	1.390	< 0.12	< 0.12	ng/g	J/UJ	D	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS RPD for M8315A

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW8-A-SEP2020	N	Methyl hydrazine	0.120	0.0990 U J1	0.0990 X		ng/g	M/D

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method M8315A, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-DUP5-SEP2020 (FD)/ 410-13059-3		8.210	< 3	< 6	days	J/X	H1	Test Exceeds UCL
NHFLA-MW4OB-A-SEP2020 (N)/ 410-13059-4		8.030	< 3	< 6	days	J/X	H1	Test Exceeds UCL
NHFLA-MW4OB-B-SEP2020 (N)/ 410-13059-5		8.010	< 3	< 6	days	J/X	H1	Test Exceeds UCL
NHFLA-MW8-A-SEP2020 (N)/ 410-13059-1		8.210	< 3	< 6	days	J/X	H1	Test Exceeds UCL
NHFLA-MW8-A-SEP2020 (N)/ 410-13059-1MS		8.210	< 3	< 6	days	J/X	H1	Test Exceeds UCL
NHFLA-MW8-A-SEP2020 (N)/ 410-13059-1MSD		8.210	< 3	< 6	days	J/X	H1	Test Exceeds UCL
NHFLA-MW8-B-SEP2020 (N)/ 410-13059-2		8.200	< 3	< 6	days	J/X	H1	Test Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Table of All Qualified Results

Test Method: M8315A Extraction Method: NONE								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW8-A-SEP2020	N	1,1-Dimethylhydrazine	0.120	0.0990 U J1	0.0990 UJ		ng/g	M
NHFLA-MW8-A-SEP2020	N	Hydrazine	0.120	0.0500 U J1	0.0500 X		ng/g	M
NHFLA-MW8-A-SEP2020	N	Methyl hydrazine	0.120	0.0990 U J1	0.0990 X		ng/g	M/D

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method M8315A

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP5-SEP2020	FD	1,1-Dimethylhydrazine	0.130	0.100 U	0.100 X	0.100 U	
NHFLA-DUP5-SEP2020	FD	Hydrazine	0.130	0.0500 U	0.0500 X	0.0500 U	
NHFLA-DUP5-SEP2020	FD	Methyl hydrazine	0.130	0.100 U	0.100 X	0.100 U	
NHFLA-MW4OB-A-SEP2020	N	1,1-Dimethylhydrazine	0.130	0.100 U	0.100 X	0.100 U	
NHFLA-MW4OB-A-SEP2020	N	Hydrazine	0.130	0.0500 U	0.0500 X	0.0500 U	
NHFLA-MW4OB-A-SEP2020	N	Methyl hydrazine	0.130	0.100 U	0.100 X	0.100 U	
NHFLA-MW4OB-B-SEP2020	N	1,1-Dimethylhydrazine	0.130	0.100 U	0.100 X	0.100 U	
NHFLA-MW4OB-B-SEP2020	N	Hydrazine	0.130	0.0500 U	0.0500 X	0.0500 U	
NHFLA-MW4OB-B-SEP2020	N	Methyl hydrazine	0.130	0.100 U	0.100 X	0.100 U	
NHFLA-MW8-A-SEP2020	N	1,1-Dimethylhydrazine	0.120	0.0990 U J1	0.0990 X	0.0990 UJ	M
NHFLA-MW8-A-SEP2020	N	Hydrazine	0.120	0.0500 U J1	0.0500 X	0.0500 X	M
NHFLA-MW8-A-SEP2020	N	Methyl hydrazine	0.120	0.0990 U J1	0.0990 X	0.0990 X	M/D
NHFLA-MW8-B-SEP2020	N	1,1-Dimethylhydrazine	0.130	0.100 U	0.100 X	0.100 U	
NHFLA-MW8-B-SEP2020	N	Hydrazine	0.130	0.0500 U	0.0500 X	0.0500 U	
NHFLA-MW8-B-SEP2020	N	Methyl hydrazine	0.130	0.100 U	0.100 X	0.100 U	

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Automated Data Review Detail Report for 410-13059-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

QC Outlier Report

Test Method: M8315A Extraction Method: NONE Leach Method: NONE

QC Element	Sample ID/ Lab Sample ID	Run#/ Dil'n	Analyte	Result (Units)	Qualifier	Warning Limits	Control Limits	Reason	Comment	Rule	Action Level
MS Recovery	NHFLA-MW8-A-SEP2020 (MS) / 410-13059-1MS	1 / 1.00	1,1-Dimethylhydrazine	78.67 (percent)	J/UJ	86 - 124	10 - 124	M			
MS Recovery	NHFLA-MW8-A-SEP2020 (MS) / 410-13059-1MS	1 / 1.00	Hydrazine	1.197 (percent)	J/X	54 - 128	10 - 128	M			
MS Recovery	NHFLA-MW8-A-SEP2020 (MS) / 410-13059-1MS	1 / 1.00	Methyl hydrazine	3.000 (percent)	J/X	29 - 187	10 - 187	M			
MS Recovery	NHFLA-MW8-A-SEP2020 (SD) / 410-13059-1MSD	1 / 1.00	1,1-Dimethylhydrazine	75.17 (percent)	J/UJ	86 - 124	10 - 124	M			
MS Recovery	NHFLA-MW8-A-SEP2020 (SD) / 410-13059-1MSD	1 / 1.00	Hydrazine	1.168 (percent)	J/X	54 - 128	10 - 128	M			
MS Recovery	NHFLA-MW8-A-SEP2020 (SD) / 410-13059-1MSD	1 / 1.00	Methyl hydrazine	12.35 (percent)	J/UJ	29 - 187	10 - 187	M			
MS RPD	NHFLA-MW8-A-SEP2020 (SD) / 410-13059-1MSD	1 / 1.00	Methyl hydrazine	1.390 (ng/g)	J/UJ	< 0.12	< 0.12	D			
Test Hold Time	NHFLA-DUP5-SEP2020 (FD) / 410-13059-3	1 / 1.00	All in Run	8.210 (days)	J/X	< 3	< 6	H1	Test Exceeds UCL		
Test Hold Time	NHFLA-MW4OB-A-SEP2020 (N) / 410-13059-4	1 / 1.00	All in Run	8.030 (days)	J/X	< 3	< 6	H1	Test Exceeds UCL		
Test Hold Time	NHFLA-MW4OB-B-SEP2020 (N) / 410-13059-5	1 / 1.00	All in Run	8.010 (days)	J/X	< 3	< 6	H1	Test Exceeds UCL		
Test Hold Time	NHFLA-MW8-A-SEP2020 (N) / 410-13059-1	1 / 1.00	All in Run	8.210 (days)	J/X	< 3	< 6	H1	Test Exceeds UCL		
Test Hold Time	NHFLA-MW8-A-SEP2020 (N) / 410-13059-1MS	1 / 1.00	All in Run	8.210 (days)	J/X	< 3	< 6	H1	Test Exceeds UCL		
Test Hold Time	NHFLA-MW8-A-SEP2020 (N) / 410-13059-1MSD	1 / 1.00	All in Run	8.210 (days)	J/X	< 3	< 6	H1	Test Exceeds UCL		

Automated Data Review Detail Report for 410-13059-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

QC Outlier Report

Test Method: M8315A Extraction Method: NONE Leach Method: NONE

QC Element	Sample ID/ Lab Sample ID	Run#/ Dil'n	Analyte	Result (Units)	Qualifier	Warning Limits	Control Limits	Reason	Comment	Rule	Action Level
Test Hold Time	NHFLA-MW8-B-SEP2020 (N) / 410-13059-2	1 / 1.00	All in Run	8.200 (days)	J/X	< 3	< 6	H1	Test Exceeds UCL		

Rule is the multiplier used when blank contamination occurs to determine action level.

Automated Data Review Detail Report for 410-13059-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Qualified Results

Test Method: M8315A Extraction Method: NONE Leach Method: NONE

FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW8-A-SEP2020	410-13059-1	S	N	1,1-Dimethylhydrazine	0.120	0.0990 U J1	0.0990 UJ		ng/g	M
NHFLA-MW8-A-SEP2020	410-13059-1	S	N	Hydrazine	0.120	0.0500 U J1	0.0500 X		ng/g	M
NHFLA-MW8-A-SEP2020	410-13059-1	S	N	Methyl hydrazine	0.120	0.0990 U J1	0.0990 X		ng/g	M/D

Qualified analytes in samples are reported as estimated, not detected (UJ) at the Limit of Detection (LOD).

Detected Results

--No Records Found--

Rejected Results

Test Method: M8315A Extraction Method: NONE Leach Method: NONE

FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-MW8-A-SEP2020	410-13059-1	S	N	Hydrazine	0.120	0.0500 U J1	0.0500 X	ng/g	M
NHFLA-MW8-A-SEP2020	410-13059-1	S	N	Methyl hydrazine	0.120	0.0990 U J1	0.0990 X	ng/g	M/D

Automated Data Review Detail Report for 410-13059-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
M8315A/NONE/NONE	1	3

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
M8315A/NONE/NONE	NHFLA-EB10-SEP2020	EB	1	1,1-Dimethylhydrazine	0.630 U	0.310	0.630	1.00	0.8	ug/L
M8315A/NONE/NONE	NHFLA-EB10-SEP2020	EB	1	Hydrazine	0.500 U	0.130	0.500	0.630	0.5	ug/L
M8315A/NONE/NONE	NHFLA-EB10-SEP2020	EB	1	Methyl Hydrazine	0.630 U	0.310	0.630	1.00	0.8	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
D	MS RPD
H1	Test Hold Time
M	MS Recovery
TR	Trace Level Detect

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: M8315A (Determination of Hydrazine, Monomethylhydrazine, and 1,1- Dimethylhydrazine in Aqueous and Soil Samples by LC/MS/MS)

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			H1 qualifiers removed since samples prepped and analyzed within project criteria holding times.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -001 MS/MSD recoveries biased low and less than reject criteria for hydrazine and monomethylhydrazine. MS/MSD RPD also outlier for monomethylhydrazine. These sample results were qualified as rejected with X/M flags/reason codes with D reason code added for monomethylhydrazine. 1,1-dimethylhydrazine MS/MSD recoveries also biased low but above reject criteria so these results qualified estimated with UJ/M flags/reason codes.
Was the MS/MSD RPD within project acceptance limits?		•		sample -001 monomethylhydrazine outlier.
Were surrogate recoveries within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?	•			sample -001 hydrazine and monomethylhydrazine based on MS recovery outliers below reject criteria.

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	410-13060-1_52_2a_FUDSChem
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	November 19, 2020

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	M8315A
NHFLA-MW14-A-SEP2020	410-13060-1	Solid	Field Sample/N	X
NHFLA-MW14-B-SEP2020	410-13060-2	Solid	Field Sample/N	X
NHFLA-EB11-SEP2020	410-13060-3	Water	Equipment Blank/EB	X

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA and were reported under sample delivery group (SDG) 410-13060-1_52_2a_FUDSChem. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Lab Blank
- LCS Recovery
- LCS RPD
- Prep Hold Time
- Test Hold Time

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 0 results (0.00%) out of the 9 results (sample and field QC samples) reported are qualified based on review and 0 results (0.00%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Reported as part of SDG SN7404.

Analytical Method	Data Reviewer Comment
M8315A	No additional comments; see Checklist for detail.

Jim Tomalia

January 12, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method M8315A, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW14-A-SEP2020 (N)/ 410-13060-1		7.220	< 3	< 6	days	J/X	H1	Test Exceeds UCL
NHFLA-MW14-B-SEP2020 (N)/ 410-13060-2		7.210	< 3	< 6	days	J/X	H1	Test Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Qualified Results

No results associated with this sample delivery group required qualification.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method M8315A

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-MW14-A-SEP2020	N	1,1-Dimethylhydrazine	0.130	0.100 U	0.100 X	0.100 U	
NHFLA-MW14-A-SEP2020	N	Hydrazine	0.130	0.0500 U	0.0500 X	0.0500 U	
NHFLA-MW14-A-SEP2020	N	Methyl hydrazine	0.130	0.100 U	0.100 X	0.100 U	
NHFLA-MW14-B-SEP2020	N	1,1-Dimethylhydrazine	0.120	0.100 U	0.100 X	0.100 U	
NHFLA-MW14-B-SEP2020	N	Hydrazine	0.120	0.0500 U	0.0500 X	0.0500 U	
NHFLA-MW14-B-SEP2020	N	Methyl hydrazine	0.120	0.100 U	0.100 X	0.100 U	

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Automated Data Review Detail Report for 410-13060-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

QC Outlier Report

Test Method: M8315A Extraction Method: NONE Leach Method: NONE

QC Element	Sample ID/ Lab Sample ID	Run#/ Dil'n	Analyte	Result (Units)	Qualifier	Warning Limits	Control Limits	Reason	Comment	Rule	Action Level
Test Hold Time	NHFLA-MW14-A-SEP2020 (N) / 410-13060-1	1 / 1.00	All in Run	7.220 (days)	J/X	< 3	< 6	H1	Test Exceeds UCL		
Test Hold Time	NHFLA-MW14-B-SEP2020 (N) / 410-13060-2	1 / 1.00	All in Run	7.210 (days)	J/X	< 3	< 6	H1	Test Exceeds UCL		

Rule is the multiplier used when blank contamination occurs to determine action level.

Automated Data Review Detail Report for 410-13060-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Qualified Results

--No Records Found--

Detected Results

--No Records Found--

Rejected Results

--No Records Found--

Automated Data Review Detail Report for 410-13060-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
M8315A/NONE/NONE	1	3

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
M8315A/NONE/NONE	NHFLA-EB11-SEP2020	EB	1	1,1-Dimethylhydrazine	0.630 U	0.310	0.630	1.00	0.8	ug/L
M8315A/NONE/NONE	NHFLA-EB11-SEP2020	EB	1	Hydrazine	0.500 U	0.130	0.500	0.630	0.5	ug/L
M8315A/NONE/NONE	NHFLA-EB11-SEP2020	EB	1	Methyl Hydrazine	0.630 U	0.310	0.630	1.00	0.8	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
H1	Test Hold Time

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: M8315A (Determination of Hydrazine, Monomethylhydrazine, and 1,1- Dimethylhydrazine in Aqueous and Soil Samples by LC/MS/MS)

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			Removed H1 qualifiers since all testing completed with project required holding times.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?		•		
Were MS/MSD recoveries within project acceptance limits?			•	
Was the MS/MSD RPD within project acceptance limits?			•	
Were surrogate recoveries within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?		•		

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	410-13530-1_52_2a_FUDSChem
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	January 12, 2021 - Resubmitted February 11, 2021 - correction to data review checklist narration - hold time.

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	M8315A
NHFLA-MW11-B-SEP2020	410-13530-1	Solid	Field Sample/N	X
NHFLA-MW11-C-SEP2020	410-13530-2	Solid	Field Sample/N	X
NHFLA-MW12-B-SEP2020	410-13530-3	Solid	Field Sample/N	X
NHFLA-EB12-SEP2020	410-13530-4	Water	Equipment Blank/EB	X

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA and were reported under sample delivery group (SDG) 410-13530-1_52_2a_FUDSChem. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Lab Blank
- LCS Recovery
- LCS RPD
- MS Recovery
- MS RPD
- Prep Hold Time
- Test Hold Time

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 12 results (100.00%) out of the 12 results (sample and field QC samples) reported are qualified based on review and 1 results (8.33%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Reported as part of SDG SN7436.

Analytical Method	Data Reviewer Comment
M8315A	No additional comments; see Checklist for detail.

Jim Tomalia

February 11, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method M8315A, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW11-B-SEP2020 (MS)/ 410-13530-1MS	Methyl hydrazine	19.61	29 - 187	10 - 187	percent	J/UJ	M	
NHFLA-MW11-B-SEP2020 (MS)/ 410-13530-1MS	Hydrazine	4.408	54 - 128	10 - 128	percent	J/X	M	
NHFLA-MW11-B-SEP2020 (MS)/ 410-13530-1MS	1,1-Dimethylhydrazine	76.97	86 - 124	10 - 124	percent	J/UJ	M	
NHFLA-MW11-B-SEP2020 (SD)/ 410-13530-1MSD	Hydrazine	5.629	54 - 128	10 - 128	percent	J/X	M	
NHFLA-MW11-B-SEP2020 (SD)/ 410-13530-1MSD	1,1-Dimethylhydrazine	83.44	86 - 124	10 - 124	percent	J/UJ	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for M8315A

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW11-B-SEP2020	N	1,1-Dimethylhydrazine	0.130	0.100 U J1	0.100 UJ		ng/g	H1/M
NHFLA-MW11-B-SEP2020	N	Hydrazine	0.130	0.0500 U J1	0.0500 X		ng/g	H1/M
NHFLA-MW11-B-SEP2020	N	Methyl hydrazine	0.130	0.100 U J1	0.100 UJ		ng/g	H1/M/D

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method M8315A, MS RPD

The objective of matrix spikes/matrix spike duplicates (MS/MSD) RPD analysis is to demonstrate acceptable method precision by the laboratory at the time of analysis. MS/MSD analyses are also performed to generate data that determines the long-term precision of the analytical method on various matrices. Non-homogenous samples can impact the apparent method precision. Summary forms were evaluated and compared to electronic data deliverables. Matrix spikes/matrix spike duplicates results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW11-B-SEP2020 (SD)/ 410-13530-1MSD	Methyl hydrazine	55.52	< 30	< 30	rpd	J/UJ	D	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS RPD for M8315A

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW11-B-SEP2020	N	Methyl hydrazine	0.130	0.100 U J1	0.100 UJ		ng/g	H1/M/D

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method M8315A, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-MW11-B-SEP2020 (N)/ 410-13530-1		12.25	< 3	< 6	days	J/X	H1	Test Exceeds UCL
NHFLA-MW11-B-SEP2020 (N)/ 410-13530-1MS		12.25	< 3	< 6	days	J/X	H1	Test Exceeds UCL
NHFLA-MW11-B-SEP2020 (N)/ 410-13530-1MSD		12.25	< 3	< 6	days	J/X	H1	Test Exceeds UCL
NHFLA-MW11-C-SEP2020 (N)/ 410-13530-2		12.24	< 3	< 6	days	J/X	H1	Test Exceeds UCL
NHFLA-MW12-B-SEP2020 (N)/ 410-13530-3		12.07	< 3	< 6	days	J/X	H1	Test Exceeds UCL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the Test Hold Time for M8315A

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW11-B-SEP2020	N	1,1-Dimethylhydrazine	0.130	0.100 U J1	0.100 UJ		ng/g	H1/M
NHFLA-MW11-B-SEP2020	N	Hydrazine	0.130	0.0500 U J1	0.0500 X		ng/g	H1/M
NHFLA-MW11-B-SEP2020	N	Methyl hydrazine	0.130	0.100 U J1	0.100 UJ		ng/g	H1/M/D
NHFLA-MW11-C-SEP2020	N	1,1-Dimethylhydrazine	0.120	0.100 U	0.100 UJ		ng/g	H1
NHFLA-MW11-C-SEP2020	N	Hydrazine	0.120	0.0500 U	0.0500 UJ		ng/g	H1
NHFLA-MW11-C-SEP2020	N	Methyl hydrazine	0.120	0.100 U	0.100 UJ		ng/g	H1
NHFLA-MW12-B-SEP2020	N	1,1-Dimethylhydrazine	0.130	0.100 U	0.100 UJ		ng/g	H1
NHFLA-MW12-B-SEP2020	N	Hydrazine	0.130	0.0500 U	0.0500 UJ		ng/g	H1
NHFLA-MW12-B-SEP2020	N	Methyl hydrazine	0.130	0.100 U	0.100 UJ		ng/g	H1

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Table of All Qualified Results

Test Method: M8315A Extraction Method: NONE

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-MW11-B-SEP2020	N	1,1-Dimethylhydrazine	0.130	0.100 U J1	0.100 UJ		ng/g	H1/M
NHFLA-MW11-B-SEP2020	N	Hydrazine	0.130	0.0500 U J1	0.0500 X		ng/g	H1/M
NHFLA-MW11-B-SEP2020	N	Methyl hydrazine	0.130	0.100 U J1	0.100 UJ		ng/g	H1/M/D
NHFLA-MW11-C-SEP2020	N	1,1-Dimethylhydrazine	0.120	0.100 U	0.100 UJ		ng/g	H1
NHFLA-MW11-C-SEP2020	N	Hydrazine	0.120	0.0500 U	0.0500 UJ		ng/g	H1
NHFLA-MW11-C-SEP2020	N	Methyl hydrazine	0.120	0.100 U	0.100 UJ		ng/g	H1
NHFLA-MW12-B-SEP2020	N	1,1-Dimethylhydrazine	0.130	0.100 U	0.100 UJ		ng/g	H1
NHFLA-MW12-B-SEP2020	N	Hydrazine	0.130	0.0500 U	0.0500 UJ		ng/g	H1
NHFLA-MW12-B-SEP2020	N	Methyl hydrazine	0.130	0.100 U	0.100 UJ		ng/g	H1

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method M8315A

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-EB12-SEP2020	EB	1,1-Dimethylhydrazine	1.00	0.630 U H	0.630 U	0.630 UJ	H2
NHFLA-EB12-SEP2020	EB	Hydrazine	0.630	0.500 U H	0.500 U	0.500 UJ	H2
NHFLA-EB12-SEP2020	EB	Methyl hydrazine	1.00	0.630 U H	0.630 U	0.630 UJ	H2
NHFLA-MW11-B-SEP2020	N	1,1-Dimethylhydrazine	0.130	0.100 U J1	0.100 X	0.100 UJ	H1/M
NHFLA-MW11-B-SEP2020	N	Methyl hydrazine	0.130	0.100 U J1	0.100 X	0.100 UJ	H1/M/D
NHFLA-MW11-C-SEP2020	N	1,1-Dimethylhydrazine	0.120	0.100 U	0.100 X	0.100 UJ	H1
NHFLA-MW11-C-SEP2020	N	Hydrazine	0.120	0.0500 U	0.0500 X	0.0500 UJ	H1
NHFLA-MW11-C-SEP2020	N	Methyl hydrazine	0.120	0.100 U	0.100 X	0.100 UJ	H1
NHFLA-MW12-B-SEP2020	N	1,1-Dimethylhydrazine	0.130	0.100 U	0.100 X	0.100 UJ	H1
NHFLA-MW12-B-SEP2020	N	Hydrazine	0.130	0.0500 U	0.0500 X	0.0500 UJ	H1
NHFLA-MW12-B-SEP2020	N	Methyl hydrazine	0.130	0.100 U	0.100 X	0.100 UJ	H1

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Automated Data Review Detail Report for 410-13530-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

QC Outlier Report

Test Method: M8315A Extraction Method: NONE Leach Method: NONE

QC Element	Sample ID/ Lab Sample ID	Run#/ Dil'n	Analyte	Result (Units)	Qualifier	Warning Limits	Control Limits	Reason	Comment	Rule	Action Level
MS Recovery	NHFLA-MW11-B-SEP2020 (MS) / 410-13530-1MS	1 / 1.00	1,1-Dimethylhydrazine	76.97 (percent)	J/UJ	86 - 124	10 - 124	M			
MS Recovery	NHFLA-MW11-B-SEP2020 (MS) / 410-13530-1MS	1 / 1.00	Hydrazine	4.408 (percent)	J/X	54 - 128	10 - 128	M			
MS Recovery	NHFLA-MW11-B-SEP2020 (MS) / 410-13530-1MS	1 / 1.00	Methyl hydrazine	19.61 (percent)	J/UJ	29 - 187	10 - 187	M			
MS Recovery	NHFLA-MW11-B-SEP2020 (SD) / 410-13530-1MSD	1 / 1.00	1,1-Dimethylhydrazine	83.44 (percent)	J/UJ	86 - 124	10 - 124	M			
MS Recovery	NHFLA-MW11-B-SEP2020 (SD) / 410-13530-1MSD	1 / 1.00	Hydrazine	5.629 (percent)	J/X	54 - 128	10 - 128	M			
MS RPD	NHFLA-MW11-B-SEP2020 (SD) / 410-13530-1MSD	1 / 1.00	Methyl hydrazine	55.52 (rpd)	J/UJ	< 30	< 30	D			
Test Hold Time	NHFLA-MW11-B-SEP2020 (N) / 410-13530-1	1 / 1.00	All in Run	12.25 (days)	J/X	< 3	< 6	H1	Test Exceeds UCL		
Test Hold Time	NHFLA-MW11-B-SEP2020 (N) / 410-13530-1MS	1 / 1.00	All in Run	12.25 (days)	J/X	< 3	< 6	H1	Test Exceeds UCL		
Test Hold Time	NHFLA-MW11-B-SEP2020 (N) / 410-13530-1MSD	1 / 1.00	All in Run	12.25 (days)	J/X	< 3	< 6	H1	Test Exceeds UCL		
Test Hold Time	NHFLA-MW11-C-SEP2020 (N) / 410-13530-2	1 / 1.00	All in Run	12.24 (days)	J/X	< 3	< 6	H1	Test Exceeds UCL		
Test Hold Time	NHFLA-MW12-B-SEP2020 (N) / 410-13530-3	1 / 1.00	All in Run	12.07 (days)	J/X	< 3	< 6	H1	Test Exceeds UCL		

Rule is the multiplier used when blank contamination occurs to determine action level.

Automated Data Review Detail Report for 410-13530-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Qualified Results

Test Method: M8315A Extraction Method: NONE Leach Method: NONE

FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-EB12-SEP2020	410-13530-4	W	EB	1,1-Dimethylhydrazine	1.00	0.630 U H	0.630 UJ		ug/l	H2
NHFLA-EB12-SEP2020	410-13530-4	W	EB	Hydrazine	0.630	0.500 U H	0.500 UJ		ug/l	H2
NHFLA-EB12-SEP2020	410-13530-4	W	EB	Methyl hydrazine	1.00	0.630 U H	0.630 UJ		ug/l	H2
NHFLA-MW11-B-SEP2020	410-13530-1	S	N	1,1-Dimethylhydrazine	0.130	0.100 U J1	0.100 UJ		ng/g	H1/M
NHFLA-MW11-B-SEP2020	410-13530-1	S	N	Hydrazine	0.130	0.0500 U J1	0.0500 X		ng/g	H1/M
NHFLA-MW11-B-SEP2020	410-13530-1	S	N	Methyl hydrazine	0.130	0.100 U J1	0.100 UJ		ng/g	H1/M/D
NHFLA-MW11-C-SEP2020	410-13530-2	S	N	1,1-Dimethylhydrazine	0.120	0.100 U	0.100 UJ		ng/g	H1
NHFLA-MW11-C-SEP2020	410-13530-2	S	N	Hydrazine	0.120	0.0500 U	0.0500 UJ		ng/g	H1
NHFLA-MW11-C-SEP2020	410-13530-2	S	N	Methyl hydrazine	0.120	0.100 U	0.100 UJ		ng/g	H1
NHFLA-MW12-B-SEP2020	410-13530-3	S	N	1,1-Dimethylhydrazine	0.130	0.100 U	0.100 UJ		ng/g	H1
NHFLA-MW12-B-SEP2020	410-13530-3	S	N	Hydrazine	0.130	0.0500 U	0.0500 UJ		ng/g	H1
NHFLA-MW12-B-SEP2020	410-13530-3	S	N	Methyl hydrazine	0.130	0.100 U	0.100 UJ		ng/g	H1

Qualified analytes in samples are reported as estimated, not detected (UJ) at the Limit of Detection (LOD).

Automated Data Review Detail Report for 410-13530-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Detected Results

--No Records Found--

Rejected Results

Test Method: M8315A Extraction Method: NONE Leach Method: NONE

FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-MW11-B-SEP2020	410-13530-1	S	N	Hydrazine	0.130	0.0500 U J1	0.0500 X	ng/g	H1/M

Automated Data Review Detail Report for 410-13530-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
M8315A/NONE/NONE	1	3

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
M8315A/NONE/NONE	NHFLA-EB12-SEP2020	EB	1	1,1-Dimethylhydrazine	0.630 UJ	0.310	0.630	1.00	0.8	ug/L
M8315A/NONE/NONE	NHFLA-EB12-SEP2020	EB	1	Hydrazine	0.500 UJ	0.130	0.500	0.630	0.5	ug/L
M8315A/NONE/NONE	NHFLA-EB12-SEP2020	EB	1	Methyl Hydrazine	0.630 UJ	0.310	0.630	1.00	0.8	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
D	MS RPD
H1	Test Hold Time
H2	Prep Hold Time
M	MS Recovery

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: M8315A (Determination of Hydrazine, Monomethylhydrazine, and 1,1- Dimethylhydrazine in Aqueous and Soil Samples by LC/MS/MS)

Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?		•		Samples -001, -002, -003 analyzed outside of 72 hour holding time and sample -004 prepped outside of 10 day hold time. All sample results qualified estimated with UJ flags.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?	•			
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -001 all target analyte MS/MSD recoveries biased low. Hydrazine recoveries below reject criteria. Monomethyl and dimethylhydrazine sample -001 results qualified estimated with UJ/M flags/reason codes and hydrazine results qualified rejected with X/M flag/reason code.
Was the MS/MSD RPD within project acceptance limits?		•		Sample -001 MS/MSD RPD outlier for monomethylhydrazine. Qualified with UJ/D flag/reason code.
Were surrogate recoveries within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?			•	
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?	•			Sample -001 hydrazine rejected due to MS recovery outliers.

Facility:	C02NY0079-02, Nike BU 51/52, Launch Area
Event:	Nike BU 51/52 - Hamburg NY - First Soil Sampling Event
SDG:	410-14383-1_52_2a_FUDSChem
Guidance Document:	Nike BU 51/52 Quality Assurance Project Plan
Prime Contractor:	Seres-Arcadis JV
Project Manager:	Jennifer Singer
Contract Laboratory(ies):	Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA
Data Review Contractor:	CADENA LLC
Data Review Level:	S2AVEM
Primary Data Reviewer:	Jim Tomalia, Senior Environmental Compliance Specialist
Date Submitted:	January 13, 2021

Field Sample ID	Lab Sample ID	Matrix	Type/Type Code	M8315A
NHFLA-DUP10-SEP2020	410-14383-3	Soil	Field Duplicate/FD	X
NHFLA-SL26-A-SEP2020	410-14383-5	Soil	Field Sample/N	X
NHFLA-SL27-A-SEP2020	410-14383-4	Soil	Field Sample/N	X
NHFLA-SL28-A-SEP2020	410-14383-1	Soil	Field Sample/N	X
NHFLA-SL31-A-SEP2020	410-14383-2	Soil	Field Sample/N	X
NHFLA-EB17-SEP2020	410-14383-6	Water	Equipment Blank/EB	X

This report assesses the analytical data quality associated with the analyses listed on the preceding cover page at S2AVEM data validation level. This assessment has been made through a combination of automated data review (ADR) and supplemental manual review, the details of which are described below. The approach taken in the review of this data set is consistent with the requirements contained in the Nike BU 51/52 Quality Assurance Project Plan and the additional guidance documents incorporated by reference to the extent possible. Where definitive guidance is not provided, results have been evaluated in a conservative manner using professional judgment.

Sample collection was managed and directed by Seres-Arcadis JV; analyses were performed by Eurofins Lancaster Laboratories Environmental, LLC, Lancaster, PA and were reported under sample delivery group (SDG) 410-14383-1_52_2a_FUDSChem. Data have been evaluated electronically based on electronic data deliverables (EDDs) provided by the laboratory, and hard copy data summary forms have also been reviewed during this effort and compared to the automated review output by the reviewers whose signatures appear on the following page. Findings based on the automated data submission and manual data verification processes are detailed in the ADR narrative and throughout this report.

All quality control (QC) elements associated with this SDG have been reviewed by a project chemist in accordance with the requirements defined for the project. This review is documented in the attached Data Review Checklists. The QC elements listed below were supported by the electronic deliverable and were evaluated using ADR processes.

- Blank - Negative
- Equipment Blank
- Field Duplicate RPD
- Lab Blank
- LCS Recovery
- LCS RPD
- MS Recovery
- MS RPD
- Prep Hold Time
- Test Hold Time

Results of the ADR process were subsequently reviewed and updated as applicable by the data review chemists identified on the signature page. Quality control elements that were not included in the electronic deliverable were reviewed manually and findings are documented within this report. Summaries of findings and associated qualified results are documented throughout this report.

A total of 3 results (16.67%) out of the 18 results (sample and field QC samples) reported are qualified based on review and 1 results (5.56%) have been rejected or deemed a serious deficiency. Trace values, defined as results that are qualified as estimated because they fall between the detection limit and the reporting limit/limit of quantitation, are not counted as qualified results in the above count. The qualified results are detailed throughout this report and discussed in the narrative below, where appropriate.

Narrative Comments

Analytical Method	Data Reviewer Comment
M8315A	No additional comments; see Checklist for detail.

Jim Tomalia

January 13, 2021

Reviewed by Jim Tomalia, Senior Environmental Compliance Specialist, CADENA LLC

As the Reviewer, I certify that I have performed a data review process in accordance with the requirements of the project guidance document, and have compared the electronic data to the laboratory's hard copy report and have verified the consistency of a minimum of 10% of the reported sample results and method quality control data between the two deliverables.

Quality Control Outliers for test method M8315A, MS Recovery

Data for matrix spikes/matrix spike duplicates (MS/MSD) are generated to determine long-term precision and accuracy of the analytical method on various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis. These data alone cannot be used to evaluate the precision and accuracy of individual samples. However, when exercising professional judgment, MS/MSD data can be used in conjunction with other available QC information. Reported results were evaluated to determine compliance with the required acceptance criteria, and summary forms were evaluated and compared to electronic data deliverables. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-SL28-A-SEP2020 (MS)/ 410-14383-1MS	Hydrazine	2.937	54 - 128	10 - 128	percent	J/X	M	
NHFLA-SL28-A-SEP2020 (MS)/ 410-14383-1MS	Methyl hydrazine	22.91	29 - 187	10 - 187	percent	J/UJ	M	
NHFLA-SL28-A-SEP2020 (SD)/ 410-14383-1MSD	Methyl hydrazine	13.13	29 - 187	10 - 187	percent	J/UJ	M	
NHFLA-SL28-A-SEP2020 (SD)/ 410-14383-1MSD	Hydrazine	2.243	54 - 128	10 - 128	percent	J/X	M	
NHFLA-SL28-A-SEP2020 (SD)/ 410-14383-1MSD	1,1-Dimethylhydrazine	79.33	86 - 124	10 - 124	percent	J/UJ	M	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS Recovery for M8315A

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-SL28-A-SEP2020	N	1,1-Dimethylhydrazine	0.120	0.0990 U FL	0.0990 UJ		ng/g	M
NHFLA-SL28-A-SEP2020	N	Hydrazine	0.120	0.0500 U FL	0.0500 X		ng/g	M
NHFLA-SL28-A-SEP2020	N	Methyl hydrazine	0.120	0.0990 U FL F	0.0990 UJ		ng/g	M/D

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method M8315A, MS RPD

The objective of matrix spikes/matrix spike duplicates (MS/MSD) RPD analysis is to demonstrate acceptable method precision by the laboratory at the time of analysis. MS/MSD analyses are also performed to generate data that determines the long-term precision of the analytical method on various matrices. Non-homogenous samples can impact the apparent method precision. Summary forms were evaluated and compared to electronic data deliverables. Matrix spikes/matrix spike duplicates results that were outside of the acceptance criteria are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-SL28-A-SEP2020 (SD)/ 410-14383-1MSD	Methyl hydrazine	54.88	< 30	< 30	rpd	J/UJ	D	

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

Qualified Results associated with the MS RPD for M8315A

FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-SL28-A-SEP2020	N	Methyl hydrazine	0.120	0.0990 U FL F	0.0990 UJ		ng/g	M/D

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.

Quality Control Outliers for test method M8315A, Test Hold Time

Hold times are ascertained based on project requirements. Holding times were determined by comparing the chain of custody records with the dates of analysis found in the electronic data deliverable and laboratory summary forms. Findings of this review, and any associated qualified results, are listed below.

Sample ID/ Lab Sample ID	Analyte	Result	Warning Limits	Control Limits	Units	Qualifier	Reason Code	Comment
NHFLA-DUP10-SEP2020 (FD)/ 410-14383-3		5.580	< 3	< 6	days	J/UJ	H1	Test Exceeds UWL
NHFLA-SL26-A-SEP2020 (N)/ 410-14383-5		5.550	< 3	< 6	days	J/UJ	H1	Test Exceeds UWL
NHFLA-SL27-A-SEP2020 (N)/ 410-14383-4		5.560	< 3	< 6	days	J/UJ	H1	Test Exceeds UWL
NHFLA-SL28-A-SEP2020 (N)/ 410-14383-1		5.570	< 3	< 6	days	J/UJ	H1	Test Exceeds UWL
NHFLA-SL28-A-SEP2020 (N)/ 410-14383-1MS		5.570	< 3	< 6	days	J/UJ	H1	Test Exceeds UWL
NHFLA-SL28-A-SEP2020 (N)/ 410-14383-1MSD		5.570	< 3	< 6	days	J/UJ	H1	Test Exceeds UWL
NHFLA-SL31-A-SEP2020 (N)/ 410-14383-2		5.570	< 3	< 6	days	J/UJ	H1	Test Exceeds UWL

Where two qualifiers are listed, such as 'J/UJ', the first applies to positive results, and the second to non-detect results.
Upper and Lower Warning and Control Limits are abbreviated UWL, LWL, UCL, and LCL in the Comment field.

No results associated with this QC element required qualification.

Table of All Qualified Results

Test Method: M8315A Extraction Method: NONE								
FieldSample ID	Type	Analyte	LOQ	Lab Result	Qualified Result	Bias	Units	Reason
NHFLA-SL28-A-SEP2020	N	1,1-Dimethylhydrazine	0.120	0.0990 U FL	0.0990 UJ		ng/g	M
NHFLA-SL28-A-SEP2020	N	Hydrazine	0.120	0.0500 U FL	0.0500 X		ng/g	M
NHFLA-SL28-A-SEP2020	N	Methyl hydrazine	0.120	0.0990 U FL F	0.0990 UJ		ng/g	M/D

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Table of Results with Modified Qualifiers

Modified Qualifiers for test method M8315A

FieldSample ID	Type	Analyte	LOQ	Lab Result	ADR Result	Modified Result	Reason
NHFLA-DUP10-SEP2020	FD	1,1-Dimethylhydrazine	0.130	0.100 U	0.100 UJ	0.100 U	
NHFLA-DUP10-SEP2020	FD	Hydrazine	0.130	0.0500 U	0.0500 UJ	0.0500 U	
NHFLA-DUP10-SEP2020	FD	Methyl hydrazine	0.130	0.100 U	0.100 UJ	0.100 U	
NHFLA-SL26-A-SEP2020	N	1,1-Dimethylhydrazine	0.130	0.100 U	0.100 UJ	0.100 U	
NHFLA-SL26-A-SEP2020	N	Hydrazine	0.130	0.0500 U M	0.0500 UJ	0.0500 U	
NHFLA-SL26-A-SEP2020	N	Methyl hydrazine	0.130	0.100 U	0.100 UJ	0.100 U	
NHFLA-SL27-A-SEP2020	N	1,1-Dimethylhydrazine	0.130	0.100 U	0.100 UJ	0.100 U	
NHFLA-SL27-A-SEP2020	N	Hydrazine	0.130	0.0500 U	0.0500 UJ	0.0500 U	
NHFLA-SL27-A-SEP2020	N	Methyl hydrazine	0.130	0.100 U	0.100 UJ	0.100 U	
NHFLA-SL28-A-SEP2020	N	1,1-Dimethylhydrazine	0.120	0.0990 U FL	0.0990 UJ	0.0990 UJ	M
NHFLA-SL28-A-SEP2020	N	Hydrazine	0.120	0.0500 U FL	0.0500 X	0.0500 X	M
NHFLA-SL28-A-SEP2020	N	Methyl hydrazine	0.120	0.0990 U FL F	0.0990 UJ	0.0990 UJ	M/D
NHFLA-SL31-A-SEP2020	N	1,1-Dimethylhydrazine	0.120	0.100 U	0.100 UJ	0.100 U	
NHFLA-SL31-A-SEP2020	N	Hydrazine	0.120	0.0500 U	0.0500 UJ	0.0500 U	
NHFLA-SL31-A-SEP2020	N	Methyl hydrazine	0.120	0.100 U	0.100 UJ	0.100 U	

Analytes not found in project samples are reported as not detected at the limit of detection (LOD) unless blank contamination occurs and then the sample may be reported as not detected at the (LOQ) based on the sample concentration.
In instances where no LOD is provided, results are reported down to the LOQ.
Trace values are not included in the qualified results table unless additional reason codes are associated.

Automated Data Review Detail Report for 410-14383-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Detected Results

--No Records Found--

Rejected Results

Test Method: M8315A Extraction Method: NONE Leach Method: NONE

FieldSample ID	LabSample ID	Matrix	Type	Analyte	LOQ	Lab Result	Qualified Result	Units	Reason
NHFLA-SL28-A-SEP2020	410-14383-1	S	N	Hydrazine	0.120	0.0500 U FL	0.0500 X	ng/g	M

Automated Data Review Detail Report for 410-14383-1_52_2a_FUDSChem
C02NY0079-02, Nike BU 51/52, Launch Area
Nike BU 51/52 Quality Assurance Project Plan

Anomalies Count

Test/Extraction Method/Leach	Field Samples Outside of Compliance	Analytes Outside of Compliance
M8315A/NONE/NONE	1	3

Anomalies are cases where the reported RL exceeds that specified in the governing project document.

Reporting Anomalies

Test Leach	FieldSample ID	Type	Dilution	Analyte	Result	DL	LOD	LOQ/RL	Project RL	Units
M8315A/NONE/NONE	NHFLA-EB17-SEP2020	EB	1	1,1-Dimethylhydrazine	0.630 U	0.310	0.630	1.00	0.8	ug/L
M8315A/NONE/NONE	NHFLA-EB17-SEP2020	EB	1	Hydrazine	0.500 U	0.130	0.500	0.630	0.5	ug/L
M8315A/NONE/NONE	NHFLA-EB17-SEP2020	EB	1	Methyl Hydrazine	0.630 U	0.310	0.630	1.00	0.8	ug/L

Reporting Anomalies are cases where the laboratory quantitation limit (LOQ or RL) exceeds the Project Quantitation Limit Goal or Reporting Limt specified in the governing project document.

Reason Code Definitions

Code	Definition
D	MS RPD
H1	Test Hold Time
M	MS Recovery
TR	Trace Level Detect

Flag Code and Definitions

Flag	Definition
U	Undetected: The analyte was analyzed for, but not detected.
UJ	The analyte was not detected; however, the result is estimated due to discrepancies in meeting certain analyte-specific quality control criteria.
J	Estimated: The analyte was positively identified, the quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
R	The data are rejected due to deficiencies in meeting QC criteria and may not be used for decision making.
B	Blank contamination: The analyte was found in an associated blank above one half the RL, as well as in the sample.
UB	The analyte was also detected in an associated laboratory or field blank at a concentration comparable to the concentration in the sample. The reported result has been requalified as not detected.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team (which should include a project chemist), but exclusion of the data is recommended.

Review Questions

Method: M8315A (Determination of Hydrazine, Monomethylhydrazine, and 1,1- Dimethylhydrazine in Aqueous and Soil Samples by LC/MS/MS)				
Review Questions	Yes	No	NA	Comment
Did Chain-of-Custody information agree with laboratory report and EDD for requested field samples and tests?	•			
Were samples preserved properly and received in good condition?	•			
Were holding times met?	•			H1 flags removed. All prep and testing hold times were within project criteria.
Were all requested target analytes reported?	•			
Was a method blank prepared and analyzed with each batch?	•			
Were target analytes in the method blank less than MDL?	•			
Were target analytes in the field blank less than MDL?			•	
Was an LCS/LCSD pair prepared and analyzed with each batch?	•			
Were LCS/LCSD recoveries within project acceptance limits?	•			
Was the LCS/LCSD RPD within project acceptance limits?	•			
Was a MS/MSD pair prepared with each batch?	•			
Were MS/MSD recoveries within project acceptance limits?		•		Sample -001 MS/MSD recoveries were outliers biased low and below the lower reject criteria for hydrazine so were qualified with X/M flags/reason codes. Recoveries were also biased low but above reject criteria for monomethylhydrazine and 1,1-dimethylhydrazine so were qualified estimated with UJ/M flags/reason codes.
Was the MS/MSD RPD within project acceptance limits?		•		MS/MSD RPD for sample -001 monomethyhydrazine was an outlier so result was qualified with a D reason code.
Were surrogate recoveries within project acceptance limits?			•	
Was the laboratory duplicate RPD within project acceptance limits?			•	
If a field duplicate was analyzed, were the RPDs within QAPP acceptance limits?	•			
Were QAPP specified laboratory PQLs achieved?	•			Unless otherwise noted in specified in anomaly outlier summary
Have all Laboratory Case Narrative comments/findings been addressed in the data review process?	•			
Were DoD QSM corrective actions followed if deviations were noted?			•	
Were any data rejected during the verification process?	•			Hydrazine result for client sample -001 due to MS recovery outliers.

Appendix D

Water Well Survey

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Water Well Information - Search Results

Search By County Name: Erie
Search By Town/City/Village Name: Hamburg

*** = No value available.**

NR = Rock was not encountered.

Town/ City/ Village	County	Well#	FOIL Address	Latitude (D/M/S)	Longitude (D/M/S)	Well Depth (FT)	Rock Depth (FT)	GW Depth (FT)	Casing Length (FT)	Screen Used	Yield (GPM)	Registration Number
Hamburg	Erie	E3622	BOSTON STATE RD	42 42 19.0	78 47 49.6	100	96	100.0	*	N	50.0	NYRD10009
Hamburg	Erie	E2371	HAMPTON BROOK	42 42 08.9	78 50 36.8	44	41	*	41.0	N	40.0	NYRD10009
Hamburg	Erie	E3152	HUDSON ST	42 46 23.9	78 49 54.8	100	*	12.0	*	N	2.0	NYRD10408
Hamburg	Erie	E3791	LAKEVIEW RD	42 42 53.7	78 51 42.5	75	25	10.0	*	N	35.0	NYRD10408
Hamburg	Erie	E4247	MAELOU DR	42 44 07.0	78 49 59.3	67	6	5.0	*	N	2.0	NYRD10050
Hamburg	Erie	E1431	MAELOU DR	42 44 08.4	78 49 58.6	50	8	5.0	*	N	4.0	NYRD10143
Hamburg	Erie	E4404	NORTH CREEK RD	42 41 51.5	78 56 10.3	65	22	50.0	*	N	20.0	NYRD10050
Hamburg	Erie	CU2600	OLD LAKESHORE RD	42 43 46.6	78 56 32.5	50	*	6.0	*	N	20.0	NYRD10408
Hamburg	Erie	E1400	SOUTH ABBOTT RD	*	*	90	*	*	*	N	40.0	NYRD10050
Hamburg	Erie	E3086	SOUTH CREEK RD	42 42 28.8	78 51 31.0	60	15	16.0	*	N	10.0	NYRD10050
Hamburg	Erie	E1747	SOUTHWESTERN BLVD	*	*	60	*	*	*	N	20.0	NYRD10050
Hamburg	Erie	E1406	SOUTHWESTERN BLVD	42 45 44.1	78 49 45.0	306	0	44.0	*	N	*	NYRD10362

Records 1 through 12 of 12

Water Well Search Home

Appendix E

Well Construction Logs

ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: BH-36

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/15/2020
Date Completed: 9/15/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	2,4	1	NHFLA-BH36-A-Sep2020 (0-1) 1430	0.0 0.0	CL-ML	(0.0-1.0') SILT and CLAY, nonplastic; trace fine gravel; moist, soft, dark brown.		
2	2-3	NA	1.7	NHFLA-BH36-B-Sep2020 (1-3) 1445	0.0 0.0 0.0	CL-ML ML	(1.0-1.5') SILT and CLAY, nonplastic; moist, soft, brown. (1.5-3.0') SILT and ORGANICS (branches twigs, wood); moist to wet, soft, dark brown (appears disturbed).		
3									
4							End of boring at 3.0 ft bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Auger/Wireline
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 3" Split Spoon
Sample Interval: 0-1', 1-3' bgs
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Boring No.: BH-37

Soil Boring / Monitoring Well Log

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/16/2020
Date Completed: 9/16/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	2,5	1	NHFLA-BH37-A-Sep2020 (0-1) 1136	0.0 0.0	ML	(0.0-1.0') SILT, some clay; little medium to coarse gravel; dry, stiff.		
2	1-3	3,4, 5,15	1.7	NHFLA-BH37-B-Sep2020 (1-3) 1145	0.0 0.0 0.0	CL-ML	(1.0-3.0') SILT and CLAY; some medium to coarse gravel; shale fragments, little organics; moist to dry, soft to stiff.		
3							End of boring at 3.0' bgs.		
4									

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Auger/Wireline
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 3" Split Spoon
Sample Interval: 0-1', 1-3' bgs
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: BH-38

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/16/2020
Date Completed: 9/16/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	2,5	1	NHFLA-BH38-A-Sep2020 (0-1) 1030	0.0 0.0	ML	(0.0-1.0') Grass on surface. SILT and fine to coarse GRAVEL, angular; moist to dry, medium stiff, dark brown.		
2	1-3	5,5 9,6	1.6	NHFLA-BH38-B-Sep2020 (1-3) 1045	0.0 0.0 0.0	ML	(1.0-3.0') SILT, nonplastic; some coarse gravel; shale fragments; dry, medium stiff, dark brown. Moist to wet at 3.0' bgs.		
3							End of boring at 3.0' bgs.		
4									

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Auger/Wireline
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 3" Split Spoon
Sample Interval: 0-1', 1-3' bgs
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: BH-39

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/16/2020
Date Completed: 9/16/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	2,5	1	NHFLA-BH39-A-Sep2020 (0-1) 0930	0.0 0.0	ML	(0.0-1.0') Grass on surface. SILT, some fine to medium gravel; little organics; moist to dry, soft to medium stiff, dark brown.		
2	1-3	7,6, 6,10	1.4	NHFLA-BH39-B-Sep2020 (1-3) 0945, Dup-9	0.0 0.0 0.0	ML	(1.0-3.0') SILT, some medium to coarse gravel, angular; shale fragments; little organics; dry, stiff, dark brown.		
3									
4							End of boring at 3.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Auger/Wireline
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 3" Split Spoon
Sample Interval: 0-1', 1-3' bgs
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: BH-40

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/16/2020
Date Completed: 9/16/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	2,8	1	NHFLA-BH40-A-Sep2020 (0-1) 0830	0.0 0.0	CL-ML	(0.0-1.0') Grass on surface. SILT and CLAY, nonplastic, no dilatancy; little fine sand; trace coarse gravel; trace organics; dry to moist, soft, brown.		
2	1-3	7,18, 18,25	2	NHFLA-BH40-B-Sep2020 (1-3) 0845, Dup-8	0.0 0.0 0.0	CL-ML	(1.0-3.0') SILT and CLAY, nonplastic; some coarse gravel; shale fragments; dry, very stiff.		
3							End of boring at 3.0' bgs.		
4									

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Auger/Wireline
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 3" Split Spoon
Sample Interval: 0-1', 1-3' bgs
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: BH-41

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/15/2020
Date Completed: 9/15/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	2,4	1	NHFLA-BH41-A-Sep2020 (0-1) 1300	0.0 0.0	ML	(0.0-1.0') Grass on surface. SILT; some fine gravel; little organics; moist to dry, stiff, dark brown to brown.		
2	1-3	11,12, 14,22	2	NHFLA-BH41-B-Sep2020 (1-3) 1315	0.0 0.0 0.0	CL-ML	(1.0-3.0') SILT and CLAY; some coarse gravel; shale fragments; dry, stiff, brown, appears disturbed.		
3									
4							End of boring at 3.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Auger/Wireline
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 3" Split Spoon
Sample Interval: 0-1', 1-3' bgs
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: BH-42

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/15/2020
Date Completed: 9/15/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	1,4	1	NHFLA-BH42-A-Sep2020 (0-1) 1115	0.0 0.0	CL-ML	(0.0-1.0') Grass on surface. SILT and CLAY, nonplastic, no dilatancy; some medium to coarse gravel, angular; little organics; soft, brown, appears disturbed.		
2	1-3	6,8, 11,12	2	NHFLA-BH42-B-Sep2020 (1-3) 1130	0.0 0.0 0.0	CL-ML	(1.0-3.0') SILT and CLAY, nonplastic, no dilatancy; some coarse gravel; shale fragments; moist to dry, very stiff, brown, appears disturbed.		
3							End of boring at 3.0' bgs.		
4									

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Auger/Wireline
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 3" Split Spoon
Sample Interval: 0-1', 1-3' bgs
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: BH-43

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/15/2020
Date Completed: 9/15/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	2,5	1	NHFLA-BH43-A-Sep2020 (0-1) 1345	0.0 0.0	CL-ML	(0.0-1.0') Grass on surface. SILT and CLAY, nonplastic; little organics; moist, brown.		
2	1-3	4,6,8,12	1	NHFLA-BH43-B-Sep2020 (1-3) 1400	0.0 0.0 0.0	CL-ML	(1.0-3.0') SILT and CLAY, nonplastic; little fine to medium gravel, angular; moist, stiff.		
3							End of boring at 3.0' bgs.		
4									

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Auger/Wireline
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 3" Split Spoon
Sample Interval: 0-1', 1-3' bgs
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Boring No.: BH-44

Soil Boring / Monitoring Well Log

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/9/2020
Date Completed: 9/9/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	3,6	0.7	NHFLA-BH44-A-Sep2020 (0-1) 1440	0.0 0.0	GW	(0.0-1.0') Grass on surface. GRAVEL, medium to coarse; possible decomposed asphalt; 1" thick piece of asphalt, dry, black. [FILL]		
2	1-3	3,6, 11,9	1.4	NHFLA-BH44-B-Sep2020 (1-3) 1450	0.0 0.0	CL-ML	(1.0-2.0') SILT and CLAY; some organics; trace shale fragments; brown.		
3					0.0	SP-SM	(2.0-3.0') SILT and medium to coarse SAND; some shale fragments; moist to dry; stiff; possible decomposed shale.		
4							End of boring at 3.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Auger/Wireline
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 3" Split Spoon
Sample Interval: 0-1', 1-3' bgs
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

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Soil Boring / Monitoring Well Log

Boring No.: BH-45

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/9/2020
Date Completed: 9/9/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
	0-1	2.4	1	NHFLA-BH45-A-Sep2020 (0-1) 1530	0.0 0.0	ML	(0.0-1.0') SILT, nonplastic; little clay; trace organics; moist, soft, brown.		
1									
	1-3	4,7, 10,7	1.9	NHFLA-BH45-B-Sep2020 (1-3) 1540	0.0 0.0 0.0	ML	(1.0-3.0') SILT and shale fragments, non laminated; little organics; dry, stiff, brown.		
2									
3							End of boring at 3.0' bgs.		
4									

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Auger/Wireline
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 3" Split Spoon
Sample Interval: 0-1', 1-3' bgs
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: BH-46

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/10/2020
Date Completed: 9/10/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	1,2	0.8	NHFLA-BH46-A-Sep2020 (0-1) 1100, MS4,MSD4,Dup-6	0.0 0.0	ML	(0.0-1.0') Grass on surface. SILT, some clay, nonplastic, no dilatancy; little organics; soft, brown.		
2	1-3	NA	1.6	NHFLA-BH46-B-Sep2020 (1-3) 1120	0.0 0.0 0.0	CL-ML	(1.0-3.0') CLAY and SILT, nonplastic, no dilatancy; some medium to coarse gravel, angular; trace organics (roots); moist, stiff, brown.		
3							End of boring at 3.0' bgs.		
4									

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Auger/Wireline
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 3" Split Spoon
Sample Interval: 0-1', 1-3' bgs
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

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Soil Boring / Monitoring Well Log

Boring No.: BH-47

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/15/2020
Date Completed: 9/15/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	3,4	1	NHFLA-BH47-A-Sep2020 (0-1) 0830	0.0 0.0	ML	(0.0-1.0') SILT, some clay, nonplastic, no dilatancy; little organics, trace roots; moist, soft, brown.		
2	1-3	6,7, 8,4	1.7	NHFLA-BH47-B-Sep2020 (1-3) 0845	0.0 0.0	CL-ML	(1.0-2.2') CLAY and SILT, nonplastic, no dilatancy; trace organics; moist, stiff, brown.		
3					0.0		(2.2-3.0') Fractured SHALE, laminated, decomposed to extremely weathered, appears disturbed.		
4							End of boring at 3.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Auger/Wireline
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 3" Split Spoon
Sample Interval: 0-1', 1-3' bgs
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

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Soil Boring / Monitoring Well Log

Boring No.: BH-48

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/15/2020
Date Completed: 9/15/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
	0-1	1,3	1.9	NHFLA-BH48-A-Sep2020 (0-1) 0930	0.0	ML	(0.0-0.6') Grass on surface. SILT, some clay; little organics; moist, soft, brown.		
1					0.0		(0.6-1.0') SHALE, laminated, fractured; little silt; moist, soft, black, appears disturbed.		
	1-3	5,8, 10,12	2	NHFLA-BH48-B-Sep2020 (1-3) 0945	0.0	ML	(1.0-3.0') SILT and SHALE, laminated, extremely fractured; dry to moist, stiff, brown, appears disturbed.		
2					0.0				
3					0.0				
							End of boring at 3.0' bgs.		
4									

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Auger/Wireline
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 3" Split Spoon
Sample Interval: 0-1', 1-3' bgs
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

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Soil Boring / Monitoring Well Log

Boring No.: BH-49

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/9/2020
Date Completed: 9/9/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	2,4	0.5	NHFLA-BH49-A-Sep2020 (0-1) 1245	0.0 0.0	CL-ML	(0.0-1.0') Grass on surface. SILT and CLAY, nonplastic; little fine to medium gravel; trace organics; moist to dry, soft, brown.		
2	1-3	6,9, 12,7	1.9	NHFLA-BH49-B-Sep2020 (1-3) 1250	0.0 0.0 0.0	CL-ML SP-SM	(1.0-1.8') SILT and CLAY, nonplastic, no dilatancy; trace coarse gravel, angular; trace organics; moist, stiff, brown. (1.8-3.0') SILT and medium to coarse SAND; some decomposed shale fragments; moist to dry, stiff, appears disturbed, dark brown.		
3							End of boring at 3.0' bgs.		
4									

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Auger/Wireline
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 3" Split Spoon
Sample Interval: 0-1', 1-3' bgs
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

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Soil Boring / Monitoring Well Log

Boring No.: BH-50

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/15/2020
Date Completed: 9/15/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	1,4	1	NHFLA-BH50-A-Sep2020 (0-1) 1015		ML	(0.0-1.0') Grass on surface. SILT, some clay, nonplastic, no dilatancy; trace organics; moist, soft, brown.		
2	1-3	NA	1.6	NHFLA-BH50-B-Sep2020 (1-3) 1030		CL-ML	(1.0-2.1') SILT and CLAY, nonplastic, no dilatancy; dry, stiff.		
3						ML	(2.1-3.0') SILT and decomposed SHALE, laminated, extremely fractured; moist, stiff, gray brown.		
4							End of boring at 3.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Auger/Wireline
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 3" Split Spoon
Sample Interval: 0-1', 1-3' bgs
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

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Soil Boring / Monitoring Well Log

Boring No.: BH-51

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/9/2020
Date Completed: 9/9/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	1,4	0.1	NHFLA-BH51-A-Sep2020 (0-1) 1320	0.0 0.0	CL-ML	(0.0-1.0') Grass on surface. SILT and CLAY, nonplastic, no dilatancy; trace fine sand; trace organics (roots); moist to dry, brown.		
2	1-3	4,7, 0,13	NA	NHFLA-BH51-B-Sep2020 (1-3) 1330	0.0 0.0	CL-ML	(1.0-2.0') SILT and CLAY, nonplastic, no dilatancy; trace organics; trace shale fragments; moist, brown.		
3					0.0	SP-SM	(2.0-3.0') SILT and medium to coarse SAND; some decomposed shale fragments; moist to dry, stiff, brown.		
4							End of boring at 3.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Auger/Wireline
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 3" Split Spoon
Sample Interval: 0-1', 1-3' bgs
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: MW-10

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 8/25/2020
Date Completed: 8/25/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	6,8	1.9	NHFLA-MW10-A-Aug2020 (0-1) 1130	0.0 0.0	ML	(0.0-1.0') SILT and fine to coarse GRAVEL; some slag and concrete, little organics; dry, very stiff, brown.	8-inch diameter borehole Type I/II Portland grout (0-2')	
2	1-3	15,17, 25,23	1.7	NHFLA-MW10-B-Aug2020 (1-3) 1200	0.0 0.0 0.0 0.0	CL-ML	(1.0-3.3') SILT and CLAY; some medium to coarse gravel, angular; little shale fragments and crushed stone; dry, very stiff, brown.	3/8" Wyoming Bentonite Pellets (2-3')	
3					0.1		3.0-3.3 Slag in shoe, dry, blueish-gray.		
4	3-5	9,10, 10,10	1.9	NHFLA-MW10-C-Aug2020 (3-4) 1240	2.3	ML	(3.3-4.0') SILT and CLAY; some shale fragments; moist, stiff, dark brown.	#00 Silica Sand Pack (3-14')	
5					7.1 1.2	CL	(4.0-5.0') CLAY and SILT; some clay fragments; moist, reddish-brown. [TOP OF WEATHERED BEDROCK]		
6	5-7	6,9, 10,10	1.7		0.0 0.0 0.0		(5.0-7.4') SHALE, decomposed, very intensely fractured; wet, black, yellow rust-like staining in lamination, clay-like in decomposed lamination.		
7					0.0				
8							(7.4-8.5') SHALE, laminated, intensely fractured, decomposed to extremely weathered; moist to dry, gray.		
9							(8.5-9.0') SHALE, laminated, very intensely fractured, slightly weathered; dry, gray.	2-inch diameter PVC 0.010 slot Well Screen (4-14')	
10							(9.0-14.0') Augered to 14.0' bgs.	2-inch diameter Sch. 40 PVC Well Casing (0-4')	
11									
12									
13									
14									
15							End of boring at 14.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Auger/Wireline
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 2" Split Spoon+NQ+HQ
Sample Interval: 0-1', 1-3', 3-4' bgs
Water Level Start (feet bgs.): 4.0
Water Level Finish (feet btoc.)NA
Converted to Well: ☒ Yes ☐ No
Surface Elevation: NA
Northing: NA
Easting: NA

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Soil Boring / Monitoring Well Log

Boring No.: MW-01OB

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 8/19/2020
Date Completed: 8/19/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	11,16	1	NHFLA-MW10B-A-Aug2020 (0-1) @ 0022	0.0 0.0	CL-ML	(0.0-1.0') SILT and CLAY; some medium to coarse gravel, angular, dry, hard; organics at surface, light brown.	8-inch diameter borehole	
2	1-3	10,11, 11,13	1.5	NHFLA-MW10B-B-Aug2020 (1-3) @ 0855	0.0 0.0 0.0 0.1	ML	(1.0-2.0') SHALE fragments, concrete asphalt, dry. [FILL] (2.0-3.0') SILT and coarse SAND, nonplastic, moist, very stiff, asphalt and slag fragments in shoe, black to gray. [FILL]	Grout Type I/II portland (0-2.5') 2-inch diameter Sch. 40 PVC Well Casing (0-5.5')	
3									
4	3-5	14,11, 14,17	1.6		0.0 0.0 0.0 0.0	ML	(3.0-5.0') SILT and medium to coarse gravel, rounded to angular; little clay; moist; very stiff; organics, wood, black. [FILL]	3/8" Wyoming bentonite pellets (2.5-4.5')	
5									
6	5-7	3,6, 8,8	1.7	NHFLA-MW10B-C-Aug2020 (5-7) @ 0940		CL-ML	(5.0-7.0') SILT and CLAY; some medium to coarse gravel, angular to subrounded; moist; stiff; little organics (wood and roots), concrete, black. [FILL]	#00 Silica Sand Pack (4.5-5.5')	
7									
8	7-9	10,52, 80,70	2		0.7 8.1 8.8 21.7		(7.0-12.5') SHALE, highly fractured, extremely weathered; some clay; black, slight petroleum-like odor, no staining, no sheen. Water observed entering borehole by looking down hollow stem auger with spot light. Wet at 7-7.5' bgs. Dry at 7.5-8' bgs. Wet at 8-8.4' bgs. Dry at 8.4-9' bgs. Spoon refusal at 9.0' bgs.	2-inch diameter PVC 0.010 slot Well Screen (5.5-12.5')	
9									
10									
11									
12							Augered to refusal at 12.5' bgs. Water mixing with cuttings observed at 12.5' bgs.		
13							End of boring at 12.5' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Hollow Stem Auger
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 3" Split Spoon
Sample Interval: 0-1', 1-3', 5-7' bgs
Water Level Start (feet bgs.): 7.0
Water Level Finish (feet btoc.)NA
Converted to Well: ☒ Yes ☐ No
Surface Elevation: NA
Northing: NA
Easting: NA

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Soil Boring / Monitoring Well Log

Boring No.: MW-11

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/3/2020
Date Completed: 9/3/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	7,8)	1		0.0		(0.0-0.5') Crushed STONE, angular; little Silt; dry, dense, gray.	8-inch diameter borehole Type I/II Portland grout (0-2')	
					0.0		(0.5-0.6') ASPHALT.		
							(0.6-100') ASPHALT, angular to subangular aggregates, decomposed; dry, loose.		
2	1-3	8,10, 9,7		NHFLA-MW11-B -Sep2020 (1-2.1) 0900	0.0	CL-ML	(1.0-2.1') SILT and CLAY; trace fractured shale fragments; moist, stiff, black to brown, yellow rust-like staining throughout.		
					0.0				
3					0.0		(2.1-5.0') SHALE, extremely weathered, decomposed; moist, dense, black, yellow staining, rust-like in lamination, appears disturbed. [FILL]	3/8" Wyoming Bentonite Pellets (2-3')	
					0.0				
4	3-5	15,14, 14,17			0.0			#00 Silica Sand Pack (3-14')	
					0.0				
5					0.0			2-inch diameter Sch. 40 PVC Well Casing (0-5')	
				NHFLA-MW11-C -Sep2020 (5-6) 0945	0.0	ML	(5.0-6.0') SILT and CLAY, non-plastic, no dilatancy; moist, stiff, brown, possible native interface.		
6					0.1				
					14.7		(6.0-7.0') SHALE, laminated, very intensely fractured, extremely decomposed to weathered; moist to dry, black, yellow staining in lamination, slight petroleum-like odor, no staining, no sheen. Shale in shoe of sampler. Wet spoon. Refusal at 7.0' bgs.		
7					17.3		(7.0-14.0') Augered to 11.0' bgs.		
8	7-9	20,25, 30,50/4"							
9								2-inch diameter PVC 0.010 slot Well Screen (5-14')	
10									
11									
12									
13									
14							End of boring at 14.0' bgs.		
15									

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Auger/Wireline
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 2" Split Spoon+NQ+HQ
Sample Interval: 1-2.1', 5-6' bgs
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☒ Yes ☐ No
Surface Elevation: NA
Northing: NA
Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: MW-12

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/3/2020
Date Completed: 9/4/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1		1		0.0 0.0		(0.0-1.0') ASPHALT, loose granular; dry, black, possible asphalt millings. [FILL]	8-inch diameter borehole Type I/II Portland grout (0-2')	
2	1-2		1		0.0 0.0	GW	(1.0-2.0') Coarse GRAVEL, angular; little silt; dry, gray, crushed stone fill. [FILL]		
3				NHFLA-MW12-B-Sep2020 (2-2.1) 1400		CL-ML	(2.0-2.8') SILT and CLAY; medium to coarse gravel and shale fragments; moist, stiff, brown, appears reworked/disturbed.	3/8" Wyoming Bentonite Pellets (2-3')	
4	3-4		1		5.5		(2.8-4.0') SHALE, laminated, extremely fractured; black, petroleum-like odor, no sheen, no staining.	2-inch diameter Sch. 40 PVC Well Casing (0-4')	
5	4-6		1.5		0.0 0.0	CL-ML	(4.0-5.0') SILT and CLAY, low plasticity, no dilatancy; some shale fragments, angular; wet, black.		
6					0.0 0.0		(5.0-8.0') SHALE, laminated, very intensely fractured, extremely weathered; wet, black, yellow rust-like staining in lamination.	#00 Silica Sand Pack (3-11')	
7					0.0				
8					0.0 0.0			2-inch diameter PVC 0.010 slot Well Screen (4-11')	
9							(8.0-11.0') Split spoon refusal at 8.0' bgs.		
10									
11									
12							End of boring at 11.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Auger/Wireline
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 2" Split Spoon+NQ+HQ
Sample Interval: 2-2.1' bgs
Water Level Start (feet bgs.): 6.3
Water Level Finish (feet btoc): NA
Converted to Well: ☒ Yes ☐ No
Surface Elevation: NA
Northing: NA
Easting: NA

ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: MW-13

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 8/27/2020
Date Completed: 8/27/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	NA	NA	NHFLA-MW13-A-AUG2020	0.0		(0.0-4') OVERBURDEN. A tar-like substance was observed from 3-3.3' bgs.	8-inch diameter borehole Type I/II Portland grout (0-2')	
2	1-3	NA	NA	NHFLA-MW13-B-AUG2020	0.0			3/8" Wyoming Bentonite Pellets (2-3')	
3									
4	3-5	8,9, 10,15	1.4	NHFLA-MW13-C-AUG2020	0.0	ML	SILT and CLAY, low plasticity, no dilatancy; brown; trace weathered Shale.	2-inch diameter Sch. 40 PVC Well Casing (0-4')	
5							(4.4-11.0') Split spoon refusal at 4.4' bgs. Augered through WEATHERED SHALE to 11' bgs.	#00 Silica sand pack (3-11')	
6	5-7	NA	NA		0.0				
7								2-inch diameter PVC 0.010 slot Well Screen (4-11')	
8									
9									
10									
11									
12							End of boring at 11.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Auger/Wireline
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 2" Split Spoon+NQ+HQ
Sample Interval: 0-1', 1-3', 3.5-5.5' bgs
Water Level Start (feet bgs.): 7.0
Water Level Finish (feet btoc): NA
Converted to Well: ☒ Yes ☐ No
Surface Elevation: NA
Northing: NA
Easting: NA

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Soil Boring / Monitoring Well Log

Boring No.: MW-14

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/2/2020
Date Completed: 9/2/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	12,8	1	NHFLA-MW14-A-Sep2020 (0-1) 1000	0.0 0.0	ML	(0.0-1.0') SILT and GRAVEL, angular; dry, loose, trace organics, trace asphalt, brown. [FILL]	8-inch diameter borehole Type I/II Portland grout (0-2')	
2	1-3	12,8, 8,8	1.3	NHFLA-MW14-B-Sep2020 (1.3-2.8) 1030	0.0 0.0 0.0	CL-ML	(1.0-1.3') SHALE and SILT; some asphalt, trace organics; moist, stiff, black. [FILL] (1.3-2.8') SILT and CLAY, low plasticity, no dilatancy; moist, soft, brown, yellow rust-like staining throughout.	3/8" Wyoming Bentonite Pellets (2-3')	
3									
4	3-4.5	20,30, 50/4"	1.5				(2.8-4.5') SHALE, extremely weathered, intensely fractured, laminated; moist, black.	2-inch diameter Sch. 40 PVC Well Casing (0-4')	
5							(4.5-11.0') Split spoon refusal at 4.5' bgs.	#00 Silica sand pack (3-11')	
6									
7									
8								2-inch diameter PVC 0.010 slot Well Screen (4-11')	
9									
10									
11					12.2		Augered to 11.0' bgs.		
12							End of boring at 11.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Auger/Wireline
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 2" Split Spoon+NQ+HQ
Sample Interval: 0-1', 1.3-2.8' bgs
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☒ Yes ☐ No
Surface Elevation: NA
Northing: NA
Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: MW-15

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 8/26/2020
Date Completed: 8/26/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	5,7	0.9	NHFLA-MW15-A-Aug2020 (0-1) 0830 MS1,MSD1, Dup-1	0.0 0.0	CL-ML	(0.0-1.0') Organics on surface, SILT and CLAY; some shale fragments, little fine to medium gravel; organics (roots); dry to moist, stiff, brown, trace slag. [FILL]	8-inch diameter borehole Type I/II Portland grout (0-2')	
2	1-3	12,15, 12,11	2	NHFLA-MW15-B-Aug2020 (1-3) 1100, QA/QC Dup-2, MSD2	0.0 0.0 0.0	CL-ML	(1.0-2.6') SILT and CLAY; some fine to coarse gravel; shale fragments, slag; moist to dry, very stiff, brown.		
3					0.0	CL CL	(2.6-2.9') CLAY, nonplastic, no dilatancy; trace fine gravel, subrounded; moist, very stiff, brown. (2.9-3.0) CLAY and decomposed SHALE fragments; yellow rust-like staining, moist, stiff, brown.	3/8" Wyoming Bentonite Pellets (2-3')	
4	3-5	5,5, 10,51	2		0.0 0.0	CL-ML	(3.0-4.4') SILT and CLAY, nonplastic, no dilatancy; some shale fragments, angular; moist, medium stiff to stiff, brown.	2-inch diameter Sch. 40 PVC Well Casing (0-4')	
5					0.0		(4.4-5.0') SHALE, laminated, very intensely fractured, decomposed to extremely weathered; moist to wet, black, yellow rust-like staining in lamination. (5.0-11.0') Augered to 11.0' bgs.	#00 Silica sand pack (3-14')	
6									
7									
8								2-inch diameter PVC 0.010 slot Well Screen (4-11')	
9									
10									
11									
12							End of boring at 11.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Auger/Wireline
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 2" Split Spoon+NQ+HQ
Sample Interval: 0-1', 1-3', 3-4.4' bgs
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☒ Yes ☐ No
Surface Elevation: NA
Northing: NA
Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: MW-16

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 8/21/2020
Date Completed: 8/21/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	8,12	1	NHFLA-MW16-A-Aug2020 (0.5-1) 0855	0.0 0.0	ML GW	(0.0-0.5') SILT and fine to medium GRAVEL; dry, medium dense, some organics, brown. (0.5-1.0') GRAVEL, medium to coarse; some silt; dry, medium dense to loose, trace organics. [FILL]	8-inch diameter borehole	
2 3	1-3		1.5	NHFLA-MW16-B-Aug2020 (1-3) 0943		ML	(1.0-3.0') SILT and medium to coarse GRAVEL, angular; shale fragments; little slag; dry to moist, loose, brown, trace organics. [FILL]		
4 5	3-5	4,5, 14,18	2		0.4 0.3 0.0 0.0	CL-ML	(3.0-5.0') SILT and CLAY; some shale fragments; medium to coarse gravel; moist to firm, black; little organics, wood, concrete, cinders (fibrous crystalline rock in top of shoe, blue, gray).	Type I/II Portland Cement Grout (0-7')	
6 7	5-7	11,17, 15,18	1.8			ML	(5.0-7.0') SILT and CINDERS; some fine to coarse gravel; moist, very stiff, brown, possible brick in shoe, yellow, trace organics. [FILL]	2-inch diameter Sch. 40 PVC Well Casing (0-11')	
8 9	7-9	10,10, 13,18	1.8		0.0 0.3 0.0 1.0	ML	(7.0-9.0') SILT and medium to coarse GRAVEL; moist, firm, brown, some cinders, brick, wood, slag. [FILL]	3/8" Bentonite (7-9')	
10 11	9-11	5,4, 3,6	0				(9.0-11.0') No recovery. Possible void.	#00 Silica Sand Pack (9-21')	
12 13	11-13	10,39, 30,7	0.5		0.0 0.0 0.0 0.0		(11.0-13.0') CONCRETE and WOOD. Pulled off hole and redrilled to 11.0' bgs to get sample.		
14 15	13-15	3,8, 4,4	2			CL-ML	(13.0-14.5') WOOD, chips; moist, brown. [FILL] (14.5-15.0') SILT and CLAY, medium plasticity; moist, soft, gray, trace organics (roots), possible native interface.		
16 17	15-17	2,15, 17,22	4	NHFLA-MW16-C-Aug2020(15-17) 1305	0.0 0.0 0.3 0.3	CL-ML	(15.0-17.0') SILT and CLAY, medium plasticity; moist to wet, medium stiff, gray, shale in shoe. Wet at 17.0' bgs quickly lose in borehole.	2-inch diameter PVC 0.010 slot Well Screen (11-21')	
18 19	17-19	11,11, 15,15	2		0.0 0.0 0.0 0.0	ML	(17.0-19.0') SILT and medium to coarse GRAVEL; some shale fragments; highly decomposed possible top of fractured bedrock; wet to moist, stiff, brown.		
20 21	19-21	12,24, 36,50	1.8				(19.0-21.0') SHALE, extremely weathered, extremely fractured; decomposed; some fine sand layers in lamination; wet to moist, brown, red staining in fractures. Split spoon refusal.		
22							End of boring at 21.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Auger/Wireline NQ Reemed to HQ
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 2" Split Spoon+NQ+HQ
Sample Interval: 0.5-1', 1-3', 15-17' bgs
Water Level Start (feet bgs.): 17.0
Water Level Finish (feet btoc.)NA
Converted to Well: ☒ Yes ☐ No
Surface Elevation: NA
Northing: NA
Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: MW-01BR

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 8/19/2020
Date Completed: 8/19/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1							(0.0-12.0') No description.	8-inch diameter borehole	
2									
3									
4									
5								Type I/II Portland Cement Grout (0-11')	
6									
7									
8								2-inch diameter Sch. 40 PVC Well Casing (0-14')	
9									
10									
11									
12								3/8" Wyoming Bentonite Pellets (11-13')	
13							(12.0-22.0') Black SHALE, continued intensely fractured, slightly weathered to fresh, soft, pyrite vugs, wet at 12.9' and 16.7' bgs.		
14								#00 Silica Sand Pack (13-22')	
15									
16									
17									
18							(17.0-22.0') Slightly fractured, fresh, soft.	2-inch diameter PVC 0.010 slot Well Screen (14-22')	
19									
20									
21									
22									
23							End of boring at 22.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: NQ Rock Coring
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 2" Split Spoon+NQ+HQ
Sample Interval: 12-22' bgs
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☒ Yes ☐ No
Surface Elevation: NA
Northing: NA
Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: MW-02

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 8/24/2020
Date Completed: 8/24/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	3,6	1	NHFLA-MW-2-A-Aug2020 (0-1) 0930	0.0 0.0	ML	(0.0-0.2') Grass-organics. (0.2-1.0') SILT and fine GRAVEL; little organics; dry, stiff, brown.	8-inch diameter borehole Grout Protective Casing (0-2')	
2	1-3	7,10, 10,25	2	NHFLA-MW-2-B-Aug2020 (1-3) 1000	0.0 0.0 0.1	CL-ML	(1.0-1.5') SILT and CLAY; some shale fragments; moist, stiff, brown, yellow staining, varved-like. (1.5-2.4') SHALE, highly weathered, decomposed/extremely fractured; moist, stiff, black, yellow staining in lamination.		
3					0.0		(2.4-3.0') SHALE, highly weathered, decomposed/extremely fractured; moist, stiff, yellow staining in lamination.	3/8" Bentonite Pellets (2-3')	
4	3-5		1.5		0.0 0.0 0.3 0.0	CL-ML	(3.0-4.5') SILT and CLAY; some shale fragments; moist, stiff to very stiff, yellow staining in lamination of shale, highly fractured, extremely weathered shale from 3.5-4.1, shale highly fractured, weathered (more competent rock 4.1-4.5), dry, yellow staining in lamination.	2-inch diameter Sch. 40 PVC Well Casing (0-4')	
5							(4.5-12.0') Auger refusal at 12.0' bgs. Spoon refusal at 4.5' bgs.	#00 Silica Sand Pack (3-12')	
6									
7									
8							Moisture from 8-10' bgs.	2-inch diameter PVC 0.010 slot Well Screen (4-12')	
9									
10							Augered to 10' bgs, dry to moist, head space = 226 ppm, asphalt-like odor, 5,000 psi down pressure on auger.		
11									
12									
13							End of boring at 12.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: NQ Rock Coring
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 2" Split Spoon+NQ+HQ
Sample Interval: 0-1', 1-3' bgs
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☒ Yes ☐ No
Surface Elevation: NA
Northing: NA
Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: MW-03

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 8/31/2020
Date Completed: 8/31/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1		1	NHFLA-MW-3-A-Sep2020 (0-1) 0830 Dup-3	0.0 0.0		(0.0-1.0') SILT and coarse GRAVEL; dry, stiff, brown, shale fragments appears disturbed.	8-inch diameter borehole Protective casing grout (0-2')	
2	1-3		1.4	NHFLA-MW-3-A-Sep2020 (1-3) 0930 Dup-4, MS3, MSD3	0.0	ML	Moist.	Bentonite Pellets (2-3')	
3					0.0				
4	3-5	24,19, 5,5	1.5		0.0 0.0		(3.0-5.0') SHALE, laminated; dry, loose, black, appears disturbed.	#00 Silica Sand Pack (3-7') 2-inch diameter Sch. 40 PVC Well Casing (0-4')	
5					0.0	CL-ML	(5.0-5.5') SILT and CLAY, low plasticity; moist, stiff, dark brown.		
6	5-7	15,42, 50/4"			0.0 0.0		(5.5-7.0') SHALE, highly fractured, laminated; dry, decomposed to fish.	2-inch diameter PVC 0.010 slot Well Screen (4-7')	
7					0.0				
8							End of boring at 7.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: NQ Rock Coring
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 2" Split Spoon+NQ+HQ
Sample Interval: 0-1', 1-3' bgs
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☒ Yes ☐ No
Surface Elevation: NA
Northing: NA
Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: MW-04OB

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/1/2020
Date Completed: 9/1/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	6.8	1	NHFLA-MW-40B-A-Sep2020 (0-1) 1400	0.1 0.3 0.3 0.1	ML	(0.0-1.0') Grass at surface. SILT and fine SAND; some medium to coarse gravel, angular to subangular; moist, stiff, brown, slight sheen.	8-inch diameter borehole Protective casing grout (0-2')	
2	1-3	7,8, 9,53	1.6	NHFLA-MW-40B-B-Sep2020 (1-3) 1430	0.0 0.0 0.0 0.8	CL	(1.0-1.4') SHALE fragments and SILT; moist, stiff, brown. (1.4-2.0') CLAY and SILT, low plasticity, no dilatancy; moist, stiff, gray, yellow rust-like staining throughout. (2.0-3.0') SHALE, laminated decomposed to extremely weathered, very intensely fractured; dry, black.	Bentonite Pellets (2-3')	
3							(3.0-12.5') Split spoon refusal at 3.0' bgs.	2-inch diameter Sch. 40 PVC Well Casing (0-4.5')	
4									
5								#00 Silica Sand Pack (3-12.5')	
6									
7									
8								2-inch diameter PVC 0.010 slot Well Screen (4.5-12.5')	
9									
10									
11									
12							Augered to from 3 to 11.5' bgs. Dry cuttings. 20,000 psi down pressure. Let set overnight. Returned to find no water. Augered to 12.5 bgs. Water quality rose to 6.0' bgs when plug was removed..		
13							End of boring at 12.5' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: NQ Rock Coring
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 2" Split Spoon+NQ+HQ
Sample Interval: 0-1', 1-3' bgs
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☒ Yes ☐ No
Surface Elevation: NA
Northing: NA
Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: MW-04BR

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 8/13/2020
Date Completed: 8/13/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1							(0.0-3.0') Augered to 3.0' bgs.	8-inch diameter borehole	
2									
3									
4							(3.0-15.0') SHALE, extremely weathered, very intensely fractured; dry, dense, 24,000 lbs of down pressure used while augering, No water used.		
5									
6									
7								Type I/II Portlant grout (0-13')	
8									
9								2-inch diameter Sch. 40 PVC Well Casing (0-17')	
10									
11									
12									
13									
14								3/8" Wyoming Bentonite Pellets (13-15')	
15					55.0		2-inch split spoon driven to confirm competent rock at 15.0' bgs.		
16							(15.0-21.3') SHALE, black, laminated, fractured, soft, petroleum-like odor, no sheen, no staining. Intensely fractured from 15 to 15.5' bgs. Weathered fractures 16.2, 16.5, 17.4, 18.2, 18.9. Mechanical fractures 16.8-17, 19.45, 19.50, 19.55, 19.8-21.	#00 Silica Sand Pack (15-25')	
17									
18									
19									
20									
21								2-inch diameter PVC 0.010 slot Well Screen (17-25')	
22					35.0		(21.3-25.0') SHALE, laminated, black, slightly fractured, fresh; some vugs of pyrite; petroleum-like odor, no sheen, no staining. Gained approximate 70 gallons of water in Run #2.		
23									
24									
25									
26							End of boring at 25.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Auger/Wireline NQ Reemed to HQ
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 2" Split Spoon+NQ+HQ
Sample Interval: 15-25' bgs
Water Level Start (feet bgs.): 15.0
Water Level Finish (feet btoc.)NA
Converted to Well: ☒ Yes ☐ No
Surface Elevation: NA
Northing: NA
Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Boring No.: MW-05OB

Soil Boring / Monitoring Well Log

Sheet: 1 of 1

Project Name: Nike BU 51/52 | Date Started: 8/18/2020 | Logger: J. Brayer

Project Number: 30027953 | Date Completed: 8/18/2020 | Editor: N. Smith

Project Location: 2720 Lakeview Rd, Lake View, NY | Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	2,5	0.9	NHFLA-MW50B-A-Aug2020	0.0 0.0	CL-ML	(0.0-1.0') SILT and CLAY, low plasticity, no dilatancy; little organics; moist, soft, brown.	8-inch diameter borehole	
2	1-3	5,0, 11,15	1.3	NHFLA-MW50B-B-Aug2020	0.0 0.0 0.0 0.0	CL-ML	(1.0-3.0') SILT and CLAY, nonplastic; some fractured shale fragments; moist, very stiff, brown.	Type I/II Portlant grout (0-4.5')	
3									
4	3-5	5,9, 10,10	0.7		0.0 0.0 0.0 0.0	CL-ML	(3.0-5.0') SILTand CLAY; some medium to coarse gravel; dry, very stiff, brown.		
5									
6	5-7	7,15, 16,17	1.5		0.0 0.0 0.0 0.0	CL-ML	(5.0-7.0') SILT and CLAY, nonplastic; some fine to medium gravel, subrounded; trace fine sand; dry to moist, loose, brown. Moist at 6.5' bgs.	3/8" Wyoming Bentonite Pellets (4.5-6.5')	
7									
8	7-9	31,20 34,42	2.0		0.0 0.0 0.1 0.0	CL-ML ML	(7.0-8.0') SILT and CLAY, nonplastic; some medium gravel, angular; moist, gray. (8.0-9.0') SILT and medium to coarse gravel, angular to subangular; moist, hard, gray.	#00 Silica Sand Pack (6.5-18.75') 2-inch diameter Sch. 40 PVC Well Casing (0-8.5')	
9									
10	9-11	19,25, 21,18	2.0		1.3 3.2 6.8 4.2	GC	(9.0-11.0') TILL; fragments of shale in fill, subrounded to rounded gravels; dry, hard, gray, no staining, petroleum-like odor.		
11									
12	11-13	10,20, 21,25	2.0		0.1 0.1 0.0 0.0	GC	(11.0-13.0') TILL; medium to coarse gravel, angular to subangular; some silt and clay; dry, hard, gray, no odor, no staining.		
13									
14	13-15	16,50, 52,68	2.0		0.0 0.0 0.2 0.0	GC GC GC	(13.0-14.0') TILL; dry to moist, hard, gray. (14.0-14.2') Fine SAND lense; poorly graded; wet, loose, no odor; no staining. (14.2-15.0') TILL; dry, hard, gray.	2-inch diameter PVC 0.010 slot Well Screen (8.5-18.5')	
15									
16				NHFLA-MW50B-C-Aug2020	0.0 0.0 0.0	GC	(15.0-17.0') TILL; dry, hard, fragments of shale.		
17									
18					73.0 130		(17.0-18.5') SHALE competent at 17.0' bgs, petroleum-like odor, no staining. Auger refusal at 18.75' bgs, septic-like odor. [BEDROCK] Water observed at 17.5' bgs		
19							End of boring at 18.75' bgs.		
20									

Drilling Co.: Nothnagle Drilling Inc.

Driller: Steve Lorenty

Drilling Method: 4 1/4" Auger/Wireline NQ Reemed to HQ

Drilling Fluid: Potable Water

Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 2" Split Spoon+NQ+HQ

Sample Interval: NA

Water Level Start (feet bgs.): NA

Water Level Finish (feet btoc.)NA

Converted to Well: ☒ Yes ☐ No

Surface Elevation: NA

Northing: NA

Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: MW-05BR

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 8/14/2020
Date Completed: 8/14/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1–9					1.1		(0.0-9.5') Augered through overburden until resistance with augers and fragments of shale in cuttings, no water observed, dry.	8-inch diameter borehole 2-inch diameter Sch. 40 PVC Well Casing (0-25')	
10–14							(9.5-15.0') SHALE, highly fractured, highly weathered; some clay; little gravel; dry.	Type I/II Portland grout (0-25')	
15					1.2		(15.0-17.0') SHALE, laminated, very intensely fractured, extremely weathered; little clay; dry. Collected sample with 2" split spoon to confirm presence of competent bedrock.		
16–18							(17.0-18.0') SHALE, black laminated, very intensely fractured decomposed; some clay, low plasticity; black		
19					3.1		(18.0-19.0') Augered to 18.5' bgs- Auger refusal. Roller bit to 19.0' bgs to top of competent rock to start coring. Top of competent rock at 19.0' bgs. 6" of water observed in boring at 19.0' bgs.		
20–28							(19.0-29.0') SHALE, laminated; slightly fractured; soft; fresh; petroleum-like odor, no sheen, no staining. Weathered fractures at 19.4' and 19.8' bgs. No iron staining. No water lost during drilling. Mechanical fractures at 21.1', 22.0', and 28.0' bgs. Longitudinal fractures from 22.6-23.2' bgs and 26.5-28.5' bgs.	3/8" Wyoming Bentonite Pellets (25-27')	
29					3.8		(29.0-34.0') SHALE, laminated; very slightly, fresh, pyrite vugs, slight petroleum-like odor, no sheen or staining. Due to lack of water loss while drilling, well was pumped down and allowed to recharge for 30 minutes, recharge of 4.0 feet observed. Water entering at interface of overburden and bedrock.	#00 Silica Sand Pack (27-34') 2-inch diameter PVC 0.010 slot Well Screen (29-34')	
30–34									
35							End of boring at 34.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Auger/Wireline NQ Reemed to HQ
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 2" Split Spoon NQ-HQ
Sample Interval: Top of bedrock
Water Level Start (feet bgs.): 17.5
Water Level Finish (feet btoc): NA
Converted to Well: ☒ Yes ☐ No
Surface Elevation: NA
Northing: NA
Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: MW-06

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 8/26/2020
Date Completed: 8/26/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	4,2	1.9	NHFLA-MW6-A-Aug2020 (0-1) 1415	0.0 0.0	CL-ML	(0.0-1.0') SILT and CLAY; some shale fragments; little fine to medium gravel, angular; moist, stiff, trace organics, brown.	Type I/II Portlant grout (0-2')	
2	1-3	6,12, 18,16	2	NHFLA-MW6-B-Aug2020 (1-3) 1430	0.0 0.0 0.0	CL-ML	(1.0-3.0') SILT and CLAY; some shale fragments, not laminated, extremely weathered; moist, very stiff, trace organics, brown, yellow rust-like staining in lamination.	3/8" Wyoming Bentonite Pellets (2-3')	
3					0.0				
4	3-5	15,50/4"			0.0 1.8		(3.0-4.0') SHALE, laminated; very intensely fractures; decomposed to extremely weathered; moist, black, slight petroleum-like odor, no staining, no sheen. Split spoon refusal at 4.0' bgs. [BEDROCK]	2-inch diameter Sch. 40 PVC Well Casing (0-4')	
5					12.2 16.1		(4.0-11.0') Augered to 11.0' bgs.	#00 Silica Sand Pack (3-11')	
6									
7									
8								2-inch diameter PVC 0.010 slot Well Screen (4-11')	
9									
10									
11									
12							End of boring at 11.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Auger/Wireline
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 2" Split Spoon+NQ+HQ
Sample Interval: 0-1', 1-3' bgs
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☒ Yes ☐ No
Surface Elevation: NA
Northing: NA
Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: MW-07OB

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 8/20/2020
Date Completed: 8/20/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	13,16	0.7	NHFLA-MW70B-A -Aug2020 (0-0.5)		ML	(0.0-0.15') ORGANICS. (0.15-0.5') SILT and GRAVEL; dry to moist, medium dense, brown.	Type I/II Portlant grout (0-2')	
						GW	(0.5-1.0') GRAVEL; moist to dry; fill-concrete, lag glass, dense dry.		
2	1-3		1.5	NHFLA-MW70B-B -Aug2020 (1.2-3)			(1.0-1.2') FILL, concrete, slag, glass dry, blueish-gray.		
						CL-ML	(1.2-1.3') SILT and CLAY, some medium to coarse gravel, angular; dry to moist, very stiff, brown.	3/8" Wyoming Bentonite Pellets (2-3')	
3									
4	3-5	10,12, 11,12		NHFLA-MW70B-C -Aug2020 (3-5)	0.0 0.2	CL-ML	(3.0-5.0') SILT and CLAY, some medium to coarse gravel, angular; little slag; moist to wet, very stiff, brown.	2-inch diameter Sch. 40 PVC Well Casing (0-4')	
5					0.1 0.0				
					0.0		(5.0-5.5') SHALE, laminated, intensely fractured, decomposed; wet, black.		
6	5-7	11,35, 45, 72/4"	2		0.0 0.0		(5.5-7.0') SHALE, laminated, intensely fractured, extremely weathered; wet to moist, black, yellow staining in fractures.	#00 Silica Sand Pack (3-11')	
7					0.6				
8							(7.0-11.0) Split spoon refusal at 7' bgs. Augered to 11' bgs.	2-inch diameter PVC 0.010 slot Well Screen (4-11')	
9									
10									
11									
12							Auger refusal. End of boring at 11.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Auger/Wireline
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 2" Split Spoon NQ-HQ
Sample Interval: 0-0.5', 1.2-3', 3-5' bgs
Water Level Start (feet bgs.): 5.0
Water Level Finish (feet btoc.)NA
Converted to Well: ☒ Yes ☐ No
Surface Elevation: NA
Northing: NA
Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: MW-07BR

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 8/12/2020
Date Completed: 8/12/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1–12							(0.0-7.0') Overburden.	8-inch diameter borehole; Type I/II Portlant grout (0-12')	
7–12							(7.0-12.0') Hard augering. No sample. 25,000 psi down pressure.	2-inch diameter Sch. 40 PVC Well Casing (0-16')	
12			0.5				(12.0-12.5') Split spoon advanced. SHALE, laminated, intensely fractured, extremely weathered; little clay; moist to wet, black, crumbles easily, petroleum-like odor, no sheen or staining.	3/8" Wyoming Bentonite Pellets (12-14')	
12–14							(12.5-14.0') Advanced roller-bit to avoid clogging sample rods in auger.		
14–16							(14.0-16.0') SHALE, very thinly bedded, intensely fractured, slightly weathered, soft, black, little mechanical breaks, interbedded extremely weathered shale observed in recirculated cutting water.	#00 Silica Sand Pack (14-24')	
16					0.0				
16–20							(17.0-20.0') SHALE, laminated, moderately fractured, soft, black, vugs of pyrite. weathered fracture at 17.0' bgs.		
20			5.3					2-inch diameter PVC 0.010 slot Well Screen (16-24')	
20–22					0.0		(20.0-22.0') SHALE, laminated, medium to thick bedded, slightly fractured, black, vugs with pyrite, fresh.		
22					0.0				
22–24					0.5		(22.0-24.0') SHALE, laminated, thin bedded intensely fractured, fresh.		
24					0.0				
24–25							End of boring at 24.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Auger/Wireline
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 2" Split Spoon NQ Rods
Sample Interval: 14-16', 16-24' bgs
Water Level Start (feet bgs.): 12.0
Water Level Finish (feet btoc.)NA
Converted to Well: ☒ Yes ☐ No
Surface Elevation: NA
Northing: NA
Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: MW-08

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/1/2020
Date Completed: 9/1/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
0	0-1		1	NHFLA-MW8-A-Sep2020 (0-0.3) 0845	0.0	ML	(0.0-0.3') SILT and fine GRAVEL; some organics, little asphalt; moist, stiff, black.		
					0.0		(0.3-1.0') SLAG; coarse gravel sized, angular porus, moist, medium dense, gray blue. [FILL]	Type I/II Portlant grout (0-2')	
1					0.1	ML	(1.0-1.9') SILT and fine to coarse GRAVEL, angular to subrounded; some concrete, slag, shale fragments; little clay; moist, very stiff, brown, slight petroleum-like odor at 1.9' bgs. [FILL]		
2	1-3		1.8	NHFLA-MW8-B-Sep2020 (1-3) 0930, Dup-5	0.4				
					0.1	CL-ML	(1.9-3.4') SILT and CLAY; little fine gravel, angular; trace organics and shale fragments; appears disturbed, moist, stiff, brown.	3/8" Wyoming Bentonite Pellets (2-3')	
3					4.0				
					0.2			2-inch diameter Sch. 40 PVC Well Casing (0-4')	
4	3-5	12,32, 40,50	2		0.4		(3.4-3.9') SHALE, laminated, decomposed to very intensely fractured; moist, black, rust-like staining in lamination.		
					0.6		(3.9-5.0') SHALE, laminated, very intensely fractured, brittle; dry, black, red rust-like staining in lamination.		
5					0.3				
							(5.0-11.0') Spoon refusal at 5.0' bgs. Augered from 5-11' bgs. [COMPETENT BEDROCK]	#00 Silica Sand Pack (3-11')	
6									
7									
8								2-inch diameter PVC 0.010 slot Well Screen (4-11')	
9									
10									
11									
							End of boring at 11.0' bgs.		
12									

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Auger/Wireline
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 2" Split Spoon+NQ+HQ
Sample Interval: 0-0.3', 1-3' bgs
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☒ Yes ☐ No
Surface Elevation: NA
Northing: NA
Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: MW-09OB

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 8/20/2020
Date Completed: 8/20/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
0	0-1	15,8	0.7	NHFLA-MW90B-A-Aug2020 (0-0.4)	0.0	ML	(0.0-0.4') SILT, little clay, nonplastic; trace organics, soft, brown.		
1					0.0		(0.4-1.4') CRUSHED STONE, angular; dry, medium dense. [FILL]	Type I/II Portlant grout (0-2')	
2	1-3	18,6, 9,7	1.7	NHFLA-MW90B-B-Aug2020 (1.4-3)	0.0		(1.4-3.0') SILT, some medium to coarse gravel, angular, moist, stiff, brown, little organics (roots). [FILL]		
3					0.1	ML		3/8" Wyoming Bentonite Pellets (2-3')	
4	3-5	10,10, 15,23			0.0		(3.0-4.5') SHALE, laminated, very intensely fractured, extremely weathered, dry, black, no odor, no staining.	2-inch diameter Sch. 40 PVC Well Casing (0-4')	
5					0.0		(4.5-5.0') SHALE, laminated, intensely fractured, highly weathered, more competent, dry, black, no odor, no staining.		
6	5-6	50,50			0.0		(5.0-6.0') SHALE, laminated, intensely fractured, highly weathered, wet to dry, soft, black, red staining in fractures.	#00 Silica Sand Pack (3-11')	
7					1.8		(6.0-11.0') Augered from 6-11' bgs.	2-inch diameter PVC 0.010 slot Well Screen (4-11')	
8									
9									
10									
11									
12							Refusal. End of boring at 11.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Auger/Wireline
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 2" Split Spoon+NQ+HQ
Sample Interval: 1.4-3' bgs
Water Level Start (feet bgs.): 5.0
Water Level Finish (feet btoc.)NA
Converted to Well: ☒ Yes ☐ No
Surface Elevation: NA
Northing: NA
Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: MW-09BR

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 8/11/2020
Date Completed: 8/11/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1–8							(0.0-8.0') Augered to 8' bgs until resistance indicate fractured top of bedrock.	8-inch diameter borehole	
8–10			1.8		0.0 0.0 0.0 0.0		(8.0-10.0') 2-inch split spoon advanced to confirm presence of fractured bedrock. SHALE, laminated, intensely fractured, extremely weathered, wet, black, yellow iron staining.	Type I/II Portland grout (0-12')	
10–14							(10.0-14.0') Augered through fractured bedrock. Auger refusal at 14.0' bgs.	2-inch diameter Sch. 40 PVC Well Casing (0-16')	
14–24							(14.0-24.0') SHALE, gray. [BEDROCK]	3/8" Wyoming Bentonite Pellets (12-14')	
								#00 Silica Sand Pack (14-24')	
								2-inch diameter PVC 0.010 slot Well Screen (16-24')	
24–25							End of boring at 24.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: 4 1/4" Auger/Wireline
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: 2" Split Spoon+NQ+HQ
Sample Interval: NA
Water Level Start (feet bgs.): 3.3
Water Level Finish (feet btoc.)NA
Converted to Well: ☒ Yes ☐ No
Surface Elevation: NA
Northing: NA
Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: SL-11A

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/11/2020
Date Completed: 9/11/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
						ML	(0.0-0.2') SILT and GRAVEL, angular, dry, loose.		
					0.0		(0.2-1.0') SILT, some clay; little medium gravel, subangular to subrounded; trace organics (roots); dry, soft to medium stiff.		
1	0-1	NA	0.8	NHFLA-SL11A-A-Sep2020 (0-1) 1115 MSDS, Dup-7	0.0	ML			
2							End of boring at 1.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: Hollow Stem Auger
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: Auger/Shovel
Sample Interval: NA
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: SL-11B

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/11/2020
Date Completed: 9/11/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
					0.0		(0.0-0.1') ASPHALT, loose on surface, dry, dense.		
							(0.1-1.7') Crushed STONE; dry to moist, very dense.		
1	0-2	6,8,3	1		0.0				
					0.0				
				NHFLA-SL11B-A-Sep2020 (1.7) 1330					
						ML	(1.7-2.0') SILT, some clay; little fine gravel; moist, soft, brown.		
2									
							End of boring at 2.0' bgs.		
3									

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: Hollow Stem Auger
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: Auger/Shovel
Sample Interval: NA
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: SL-17

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/17/2020
Date Completed: 9/17/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
					0.0		(0.0-1.0') ASPHALT, dry.		
1	0-1	NA	1		0.0				
2							End of boring at 1.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: Hollow Stem Auger
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: Auger/Shovel
Sample Interval: NA
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

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Soil Boring / Monitoring Well Log

Boring No.: SL-18

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/17/2020
Date Completed: 9/17/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	NA	1		0.0 0.0		(0.0-1.0') Surface is too dense to drive spoon. Augered to 1' bgs. ASPHALT, crushed millings, dry.		
2							End of boring at 1.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: Hollow Stem Auger
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: Auger/Shovel
Sample Interval: NA
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: SL-19

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/17/2020
Date Completed: 9/17/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	NA	1		0.0 0.0		(0.0-1.0') Augered to 1.0' bgs due to presence of asphalt on surface. ASPHALT, loose, dry.		
2							End of boring at 1.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: Hollow Stem Auger
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: Auger/Shovel
Sample Interval: NA
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

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Soil Boring / Monitoring Well Log

Boring No.: SL-20

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/17/2020
Date Completed: 9/17/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
	0-1	NA	1		0.0		(0.0-0.7') ASPHALT, dry, loose.		
1					0.0		(0.7-1.0') CONCRETE. Auger refusal.		
2							End of boring at 1.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: Hollow Stem Auger
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: Auger
Sample Interval: NA
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

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Soil Boring / Monitoring Well Log

Boring No.: SL-21

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/17/2020
Date Completed: 9/17/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
					0.0		(0.0-0.5') ASPHALT, loose on surface, dry, dense.		
1	0-1	NA	0.5		0.0		(0.5-1.0') Concrete, auger refusal.		
2							End of boring at 1.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: Hollow Stem Auger
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: Auger
Sample Interval: NA
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

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Soil Boring / Monitoring Well Log

Boring No.: SL-23

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/17/2020
Date Completed: 9/17/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	NA	1		0.0 0.0		(0.0-1.0') ASPHALT, loose; and SLAG; porous, dry, dense.		
2							End of boring at 1.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: Hollow Stem Auger
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: Auger
Sample Interval: NA
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

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Soil Boring / Monitoring Well Log

Boring No.: SL-24

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/17/2020
Date Completed: 9/17/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
					0.0		(0.0-1.0') ASPHALT, loose, dry, dense.		
1	0-1	NA	1		0.0				
2							End of boring at 1.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: Hollow Stem Auger
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: Auger
Sample Interval: NA
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

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Soil Boring / Monitoring Well Log

Boring No.: SL-25

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/11/2020
Date Completed: 9/11/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	8,14	1	NHFLA-SL25-A-Sep2020 (0-1) 1230	0.0 0.0	ML	(0.0-1.0') Grass on surface. SILT; some fine gravel, angular; dry, stiff, trace organics, brown.		
2							End of boring at 1.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: Hollow Stem Auger
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: Auger
Sample Interval: 0-1' bgs
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

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Soil Boring / Monitoring Well Log

Boring No.: SL-26

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/16/2020
Date Completed: 9/16/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	3,5	1	NHFLA-SL26-A-Sep2020 (0-1) 1445	0.0 0.0	SM	(0.0-1.0') Grass of surface. SILT; some medium to coarse sand; little medium gravel, trace organics, dry, loose, brown.		
2							End of boring at 1.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: Hollow Stem Auger
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: Auger
Sample Interval: 0-1' bgs
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

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Soil Boring / Monitoring Well Log

Boring No.: SL-27

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/16/2020
Date Completed: 9/16/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	4,7	1	NHFLA-SL27-A-Sep2020 (0-1) 1415		ML	(0.0-1.0') Grass on surface. SILT; some medium to coarse gravel and shale fragments, angular; moist to dry, stiff, trace organics, appears distrubed.		
2							End of boring at 1.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: Hollow Stem Auger
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: Auger
Sample Interval: 0-1' bgs
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

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Soil Boring / Monitoring Well Log

Boring No.: SL-28

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/16/2020
Date Completed: 9/16/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	2,5	1	NHFLA-SS28-A-Sep2020 (0-1) 1315	0.0 0.0	ML	(0.0-1.0') Grass on surface. SILT, nonplastic; some medium to coarse gravel and slag; little fine sand; trace organics, moist, brown.		
2							End of boring at 1.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: Hollow Stem Auger
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: Split Spoon
Sample Interval: 0-1' bgs
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

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Soil Boring / Monitoring Well Log

Boring No.: SL-29

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/16/2020
Date Completed: 9/16/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	NA	1	NHFLA-SL29-A-Sep2020 (0-1) 1130	0.0 0.0	ML	(0.0-1.0') Grass on surface. SILT, low plasticity, no dilatancy and medium to coarse GRAVEL, subangular; moist, wet at 1.0' bgs.		
2							End of boring at 1.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: Hollow Stem Auger
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: Shovel
Sample Interval: 0-1' bgs
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

NIKE C:\USERS\NPSMITH\ONEDRIVE - ARCADIS_BORING LOGS\NIKE 51_52\ROUND 1 FROM ANEESH\FORMER NIKE 5152 GINT DATA FILE\FORMER NIKE 5152 PROJECT.GPJ HAMBURG NIKE.GDT 12/2/20

ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: SL-30

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/17/2020
Date Completed: 9/17/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
					0.0		(0.0-1.0') ASPHALT, dry, dense.		
1	0-1	NA	1		0.0				
2							End of boring at 1.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: Hollow Stem Auger
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: Hollow Stem Auger
Sample Interval: NA
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: SL-31

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/16/2020
Date Completed: 9/16/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	3,8	1	NHFLA-SL31-A-Sep2020 (0-1) 1345, Dup-10	0.0 0.0	ML	(0.0-1.0') SILT, some medium to coarse gravel and shale fragments; trace organics; moist to dry, soft, appears disturbed.		
2							End of boring at 1.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: Hollow Stem Auger
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: Hollow Stem Auger
Sample Interval: 0-1' bgs
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

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ARCADIS Design & Consultancy for natural and built assets

Soil Boring / Monitoring Well Log

Boring No.: SS-22

Sheet: 1 of 1

Project Name: Nike BU 51/52
Project Number: 30027953
Project Location: 2720 Lakeview Rd, Lake View, NY

Date Started: 9/17/2020
Date Completed: 9/17/2020

Logger: J. Brayer
Editor: N. Smith
Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (feet)		PID (ppm)	USCS Class	Description	Construction Details	Well
1	0-1	NA	1		0.0 0.0		(0.0-1.0') ASPHALT and crushed STONE, dry, dense.		
2							End of boring at 1.0' bgs.		

Drilling Co.: Nothnagle Drilling Inc.
Driller: Steve Lorenty
Drilling Method: Hollow Stem Auger
Drilling Fluid: Potable Water
Remarks: bgs = below ground surface; btoc = below top of casing; ' = feet; " = inch; NA = not applicable/available; ppm = parts per million; PID = photoionization detector.

Sampling Device: Auger
Sample Interval: NA
Water Level Start (feet bgs.): NA
Water Level Finish (feet btoc.)NA
Converted to Well: ☐ Yes ☒ No
Surface Elevation: NA
Northing: NA
Easting: NA

NIKE C:\USERS\NPSMITH\ONEDRIVE - ARCADIS_BORING LOGS\NIKE 51_52\ROUND 1 FROM ANEESH\FORMER NIKE 5152 GINT DATA FILE\FORMER NIKE 5152 PROJECT.GPJ HAMBURG NIKE.GDT 12/2/20

Appendix F

Well Decommissioning Reports

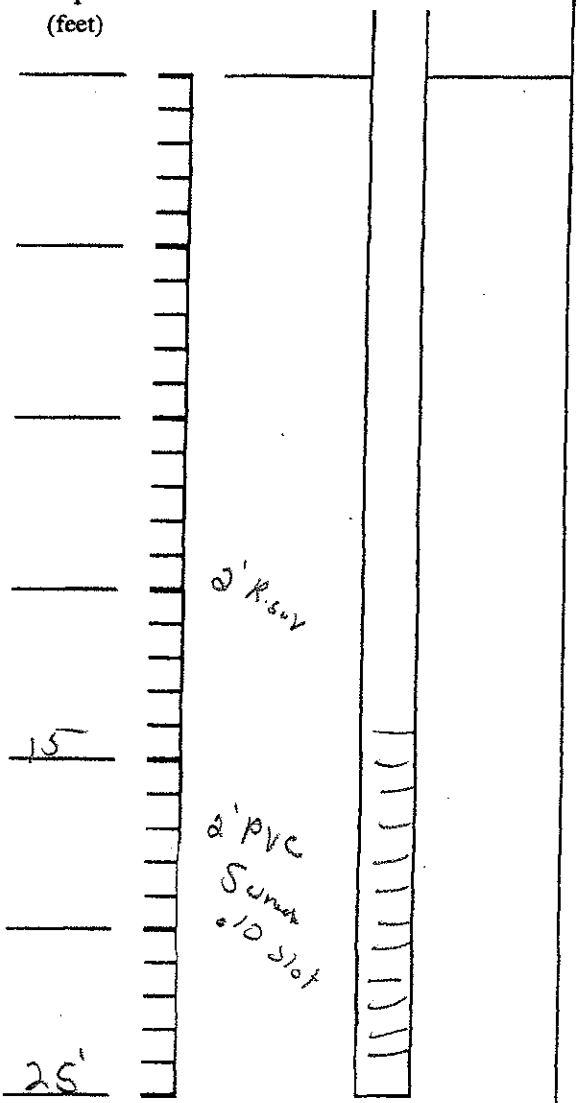
WELL DECOMMISSIONING RECORD

Site Name: N. KG - BU 51/52 launch Area	Well I.D.: GZA MW 2
Site Location:	Driller: Steve Lorenk
Drilling Co.: Nothnagle Drilling	Inspector:
	Date: 9-4-20

DECOMMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	
Drilling Method(s)	
Borehole Dia. (in.)	
Temporary Casing Installed? (y/n)	
Depth temporary casing installed	
Casing type/dia. (in.)	
Method of installing	
CASING PULLING	
Method employed	
Casing retrieved (feet)	31
Casing type/dia. (in)	2" PVC
CASING PERFORATING	
Equipment used	
Number of perforations/foot	
Size of perforations	
Interval perforated	
GROUTING	
Interval grouted (FBLS)	0-25
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	7.8
Quantity of cement used (lbs.)	97
Cement type	1
Quantity of bentonite used (lbs.)	5.9
Quantity of calcium chloride used (lbs.)	
Volume of grout prepared (gal.)	11.5
Volume of grout used (gal.)	11.5

WELL SCHEMATIC*



COMMENTS: Water level 3.2 Below grade

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

WELL DECOMMISSIONING RECORD

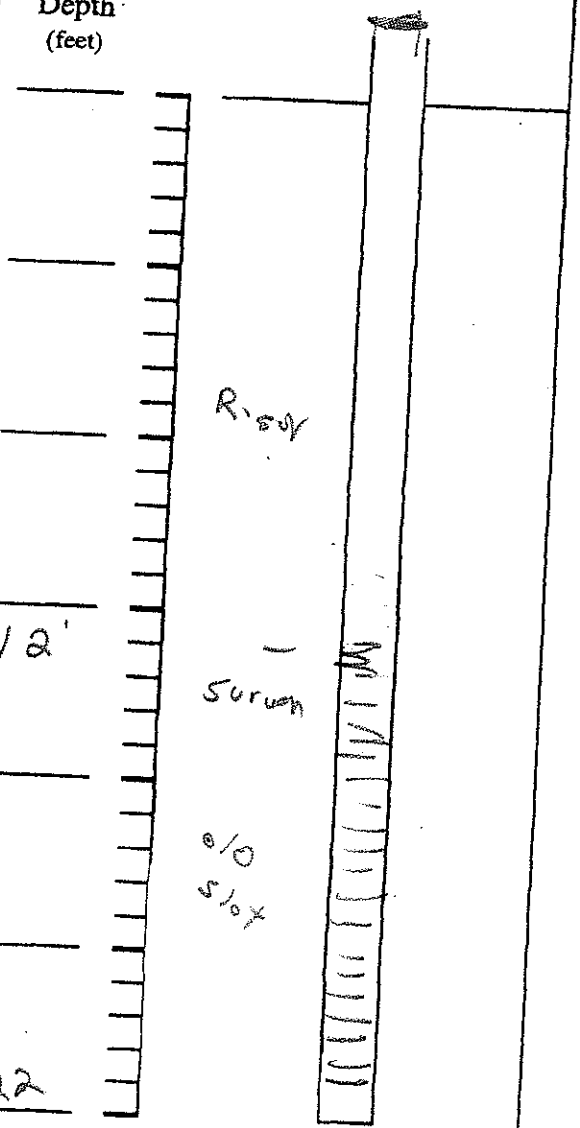
Site Name: NIKE BU-51/52 Launch Area
Site Location:
Drilling Co.: Nathnagle Drilling

Well I.D.: G2A-MW-1
Driller: Steve Loranty
Inspector:
Date: 9-4-20

DECOMMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	
Drilling Method(s)	
Borehole Dia. (in.)	
Temporary Casing Installed? (y/n)	
Depth temporary casing installed	
Casing type/dia. (in.)	
Method of installing	
CASING PULLING	
Method employed	
Casing retrieved (feet)	22
Casing type/dia. (in)	2" PVC
CASING PERFORATING	
Equipment used	
Number of perforations/foot	
Size of perforations	
Interval perforated	
GROUTING	
Interval grouted (FBLS)	0-22
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	7.8
Quantity of cement used (lbs.)	97
Cement type	I
Quantity of bentonite used (lbs.)	3.9
Quantity of calcium chloride used (lbs.)	
Volume of grout prepared (gal.)	11.5
Volume of grout used (gal.)	11

WELL SCHEMATIC*



COMMENTS: Water Level 6' Below Grade

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

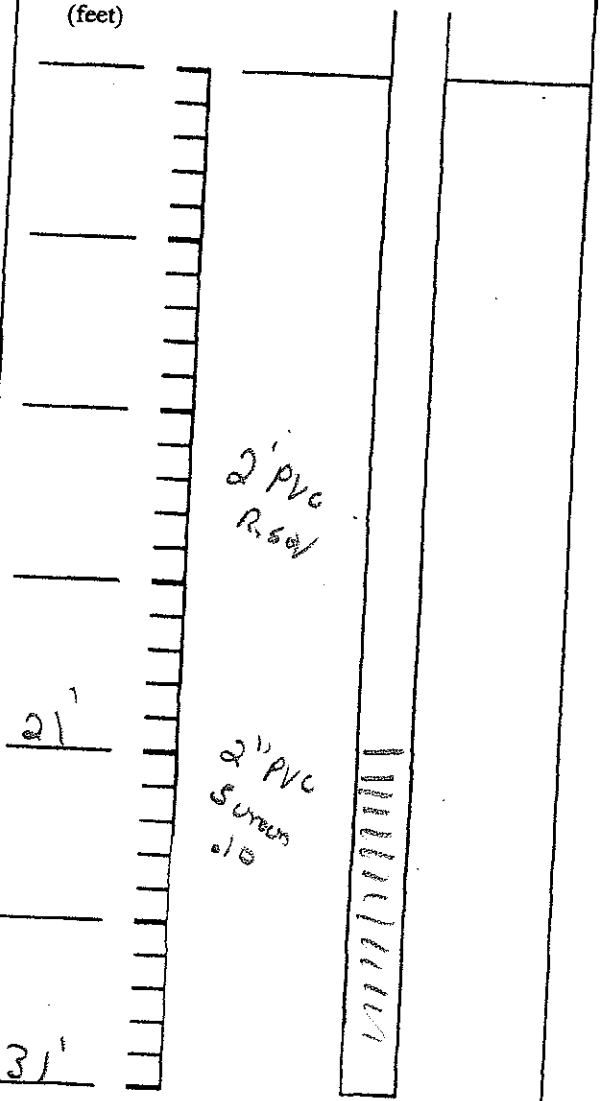
WELL DECOMMISSIONING RECORD

Site Name: Niagara Bu S/32 Leach Site
Well I.D.: GZA - MW - 4
Site Location:
Driller: Steve Landry
Drilling Co.: Nothnagle Drilling
Inspector:
Date: 9-4-20

DECOMMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	
Drilling Method(s)	
Borehole Dia. (in.)	
Temporary Casing Installed? (y/n)	
Depth temporary casing installed	
Casing type/dia. (in.)	
Method of installing	
CASING PULLING	
Method employed	
Casing retrieved (feet)	31'
Casing type/dia. (in)	2" PVC
CASING PERFORATING	
Equipment used	
Number of perforations/foot	
Size of perforations	
Interval perforated	
GROUTING	
Interval grouted (FBLS)	0-31
# of batches prepared	2
For each batch record:	
Quantity of water used (gal.)	7.8
Quantity of cement used (lbs.)	94
Cement type	I
Quantity of bentonite used (lbs.)	3.9
Quantity of calcium chloride used (lbs.)	-
Volume of grout prepared (gal.)	22
Volume of grout used (gal.)	22

WELL SCHEMATIC*



COMMENTS: Water level 3.4 ft Above grade

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

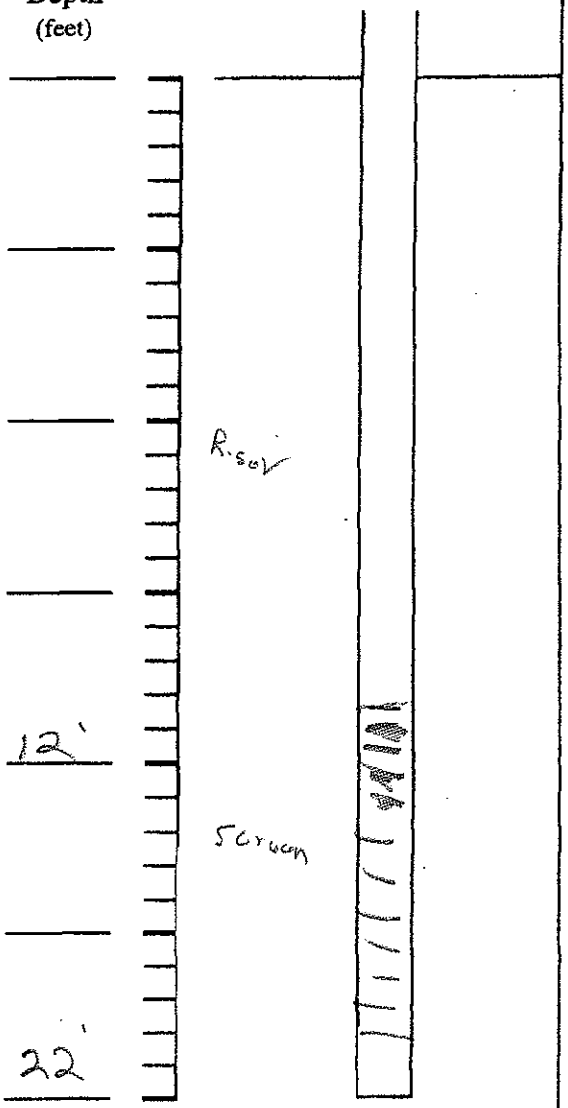
WELL DECOMMISSIONING RECORD

Site Name: Nike BU-51/52 launch Area	Well I.D.: ME-MW-3
Site Location:	Driller: Steve Kennedy
Drilling Co.: Nothnagle Drilling	Inspector:
	Date: 9-17-2020

DECOMMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	
Drilling Method(s)	
Borehole Dia. (in.)	
Temporary Casing Installed? (y/n)	
Depth temporary casing installed	N
Casing type/dia. (in.)	
Method of installing	
CASING PULLING	
Method employed	
Casing retrieved (feet)	22'
Casing type/dia. (in)	2" PVC
CASING PERFORATING	
Equipment used	
Number of perforations/foot	
Size of perforations	
Interval perforated	
GROUTING	
Interval grouted (FBLS)	0-22
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	15 gal
Quantity of cement used (lbs.)	94
Cement type	I
Quantity of bentonite used (lbs.)	3.9
Quantity of calcium chloride used (lbs.)	—
Volume of grout prepared (gal.)	11.5
Volume of grout used (gal.)	11.5

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

Appendix G

Well Development Logs, Sampling Logs, and Hydraulic Conductivity Graphs

ARCADIS

Monitoring Well Development Log

Project/No. Nike Bu 5/52 Well MW 1 BR Page 1 of 1

Date 9/17/2020 & 9/24/2020

Total Depth 24.8 Casing Diameter (inches) 2" Purge Method

Water Level 3.54 Well Volume (gal) 3.4 GALLONS Centrifugal ____

Water Column 21.26 Total Volume Purged 48 GALLONS Submersible ____

Pump On SEE BELOW Pump Off SEE BELOW Other WHALE

Developed By KC

Well Casing Volumes

gallon/foot

1-¼" = 0.06 1-½" = 0.09 2" = 0.16 2-½" = 0.26 3" = 0.37 3-½" = 0.50 4" = 0.65 6" = 1.47

	Time	Minutes Elapsed	Rate (gpm) (mL/min)	DTW (ft)	Gallons Purged	pH	Specific Conductance (mS/cm)	Temp. (C) (F)	Turbidity (NTU)	REMARKS (PID readings, color, odor, etc.)
9/17/2020	15:50	0	0.6	21.26	0					
9/17/2020	16:00	10	0.6	21.45	6	6.70	1.256	14.23	71,000	Sulfur odor, slight sheen
9/17/2020	16:10	20	0.6	21.7	12	6.63	1.258	13.66	71,000	Sulfur odor, slight sheen
	WELL WENT DRY AFTER 12 GALLONS									
9/24/2020	9:00	0	1	6.95	0	6.72	0.876	16.2	550	turbid brown
9/24/2020	9:05	5	1.5	13.38	5	6.62	0.797	15.4	341	turbid brown
9/24/2020	9:10	10	2	16.24	8	6.65	1.617	14.6	61	clearing up
9/24/20	9:15	15	2.25	20.58	10	6.63	1.550	15.1	795	turbid brown
	9:20	20	2.25	21.84	11	6.62	1.570	14.7	463	turbid brown
	WELL WENT DRY AFTER 34 GALLONS									
9/17/2020					12					
9/24/20					36					
				from	48					

ARCADIS

Groundwater Sampling Form

Project No. 30027953 | Well ID MW1BR | Date 9/30/20

Project Name/Location Nike Battalion 51/52 | Weather 60° Cloudy

Measuring Pt. Description TIC | Screen Setting (ft-bmp) | Casing Diameter (in.) 2" | Well Material X PVC ___ SS ___ Other

Total Depth (ft-bmp) 24.98' | Static Water Level (ft-bmp) 7.03' | Water Column in Well 17.95' | Gallons in Well 2.93 gal

Calc. Gallons Purged 4.5 gal | Pump Intake (ft-bmp) ~22' | Purge Method: Centrifugal ___ Submersible ___ Disp. Bailer ___ Other Geopump | Sample Method Geopump

Gallons Purged 4.5 gal | MP Elevation ___ | Pump On/Off 1354 / 1354

Sample Time: Label ~~1505~~ 1505 | Replicate/ Code No. — | Sampled by ~~RHS~~ KSH/ION

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (µmhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
1420												
1425	5	350	7.21	0.5	6.54	1.554	12.82	0.52	13.9	17.6	clear	none
1430	10	350	7.30	1.0	6.34	1.549	24.25	0.26	13.9	17.0	"	slight sulfides
1435	15	350	7.33	1.5	6.27	1.542	22.18	0.17	14.2	6.1	"	"
1440	20	350	7.34	2.0	6.26	1.538	26.09	0.12	14.2	-9.7	"	"
1445	25	350	7.36	2.5	6.26	1.529	20.35	0.11	14.3	-20.9	"	"
1450	30	350	7.37	3.0	6.26	1.525	3.93	0.09	14.4	-23.7	"	"
1455	35	350	7.38	3.5	6.26	1.520	1.55	0.08	14.1	-28.7	"	"
1500	40	350	7.37	4.0	6.26	1.515	1.53	0.08	14.1	-32.9	"	"
1505	45	350	7.37	4.5	6.26	1.511	1.50	0.10	14.1	-33.4	"	"

Constituents Sampled	Container	Number	Preservative
VOC	VOA	3	HCl
SVOC	1 Liter Amber	2	NA
Metals	250 plastic	1	HNO3
Diss Metal	250 plastic	1	N/A
Hex Chrome	250 plastic	1	NA

Well Information

Well Location: Adjacent to firing range. | Well Locked at Arrival: (Yes) / No

Condition of Well: GOOD | Well Locked at Departure: (Yes) / No

Well Completion: Flush Mount / (Stick Up) | Key Number To Well: 2347

NOTES: Sulfide odor noted

Well Casing Volumes

Gallons/Foot: 1" = 0.04 | 1.25" = 0.06 | 1.5" = 0.09 | 2" = 0.16 | 2.5" = 0.26 | 3" = 0.37 | 3.5" = 0.50 | 4" = 0.65 | 6" = 1.47

ARCADIS

Monitoring Well Development Log

12.0 bgs
6.2 below casing

Project/No. Nike Bldg 52 Well MW103 Date 9/17/2020 Page 1 of 1

Total Depth 15.10 below casing Casing Diameter (inches) 2"

Water Level 8.05 bgs Well Volume (gal) 1.45 gal

Water Column 8.9 ft Total Volume Purged 30 gallons

Pump On 13:00 Pump Off 14:16

Purge Method: Centrifugal ___ Submersible ___ Other Waterra

Developed By KC/SB

gallon/foot	Well Casing Volumes			
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

Time	Minutes Elapsed	Rate (gpm) (mL/min)	DTW (ft)	Gallons Purged	pH	Specific Conductance (mS/cm)	Temp. (C) (F)	Turbidity (NTU)	REMARKS (PID readings, color, odor, etc.)
13:00	10	0.5	8.05	0g	8.30	1.278	17.41	71000	turbid, solids
13:10	20	0.5	7.2	5g	6.79	1.298	17.03	71000	turbid solids
13:20	30	0.5	6.58	10g	6.78	0.276	16.6	71000	turbid solids
13:30	40	0.5	6.55	15g	6.80	1.287	17.52	71000	turbid solids
13:40	50	0.5	6.66	15g	6.77	1.268	17.15	71,000	turbid solids
13:50	60	0.5	6.41	20g	6.56	1.251	17.53	71,000	turbid solids
14:10	80	0.5	6.52	30g	6.35	1.290	17.8	71,000	turbid, solids

ARCADIS

Groundwater Sampling Form

Page 1 of 1

Project No. 30027953 | Well ID MW10B | Date 9/30/2020

Project Name/Location Nike BU51/52 Hamburg, NY | Weather Raining

Measuring Pt. Description TIC | Screen Setting (ft-bmp) | Casing Diameter (in.) 2" | Well Material ☑ PVC ☐ SS ☐ Other

Total Depth (ft-bmp) 15.19 ft below casing | Static Water Level (ft-bmp) 6.17 ft below casing | Water Column in Well 8.96 gal | Gallons in Well 1.45 gal

Calc. Gallons Purged 5.7 gal | Pump Intake (ft-bmp) | Purge Method: Centrifugal Submersible | Sample Method peristaltic

Gallons Purged 5.7 gal | MP Elevation | Disp. Bailer Other | Pump On/Off 15:00/15:

Sample Time: Label 15:40 | Replicate/ Code No. | Sampled by KC

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (µmhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
15:00	0	350	6.41	0	6.23	1.209	40	1.33	15.5	-42	Clear	none
15:05	5	350	6.40	0.6	6.23	1.160	22	0.53	15.4	-52	clear	none
15:10	10	350	6.41	1.2	6.23	1.153	8	0.32	15.5	-59	clear	none
15:15	15	350	6.44	1.8	6.22	1.132	80	0.20	15.4	-61	clear	none
15:20	20	350	6.42	2.4	6.22	1.132	61	0.57	15.4	-63	clear	none
15:25	25	350	6.39	3.0	6.24	1.137	28	0.16	15.5	-65	clear	none
15:30	30	350	6.40	3.6	6.23	1.136	18	0.15	15.4	-65	clear	none
15:35	35	350	6.41	4.2	6.22	1.135	10	0.13	15.4	-64	clear	none
				+1.5 Purge								
				5.7 gal Total								

Constituents Sampled	Container	Number	Preservative
VOC	VOA	3	HCl
SVOC	1 Liter	2	NA
hex chrome	plastic 250 mL	1	NA
total	plastic 250 mL	1	HNO3
diss metals	plastic 250 mL	2	NA
		(2)	

Well Information

Well Location: next to gun range

Condition of Well: new

Well Completion: Flush Mount / (Stick Up)

Well Locked at Arrival: Yes / No

Well Locked at Departure: Yes / No

Key Number To Well:

NOTES: PURGED FIRST 1.5 GALLONS DUE TO HIGH TURBIDITY FROM 14:55-15:00.

NHFLA-MW10B-SEP2020 @ 15:40

Well Casing Volumes

Gallons/Foot: 1" = 0.04 | 1.25" = 0.06 | 1.5" = 0.09 | 2" = 0.16 | 2.5" = 0.26 | 3" = 0.37 | 3.5" = 0.50 | 4" = 0.65 | 6" = 1.47

ARCADIS

Monitoring Well Development Log

Page 1 of 1

Project/No. Nike B152 Well MW-2 Date 9/21/2020

DTW(bgs) 3.6'

Total Depth	14.72	Casing Diameter (inches)	2"
Water Level	6.37	Well Volume (gal)	1.36
Water Column	8.35	Total Volume Purged	50 gal
Pump On	~~1250~~ 1200	Pump Off	1340

Purge Method: Centrifugal ____ Submersible ____ Other Waterra

Developed By K. Stilson

Well Casing Volumes

gallon/foot					
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47	

Time	Minutes Elapsed	Rate (gpm) (mL/min)	DTW (ft)	Gallons Purged	pH	Specific Conductance (mS/cm)	Temp. (C) (F)	Turbidity (NTU)	REMARKS (PID readings, color, odor, etc.)
1200	10	0.5	7.20	5.0 gal	6.87	2.103	19.65	>1000	No odor Muddy, cloudy
1210	10	0.5	7.85	5.0 gal	6.32	2.630	16.35	>1000	"
1223	10	0.5	8.30	5.0 gal	6.35	2.581	15.98	>1000	"
1230	10	0.5	8.60	5.0 gal	6.13	2.124	15.55	>1000	"
1240	10	0.5	8.97	5.0 gal	6.24	2.202	15.16	>1000	"
1250	10	0.5	8.50	5.0 gal	6.13	2.418	15.30	>1000	"
1300	10	0.5	8.85	5.0 gal	6.08	2.349	15.31	>1000	"
1310	10	0.5	9.37	5.0 gal	6.12	2.278	15.06	>1000	"
1320	10	0.5	9.40	10.0 gal	6.13	2.350	15.37	>1000	"
1340	20	0.5							

6-7 7-8 8-9 9-10 10-11 11-12 12-13 13-14 Rinse

8 feet
Screen 4-12 ft

ARCADIS

Page 1 of 1

Groundwater Sampling Form

Project No. 30027953 | Well ID MW-2 | Date 9/22/2020

Project Name/Location Nike BY 57/52 Hamburg, NY | Weather 75° Sunny

Measuring Pt. Description TIC | Screen Setting (ft-bmp) | Casing Diameter (in.) 2" | Well Material ✓ PVC ___ SS ___ Other

Total Depth (ft-bmp) 14.69' | Static Water Level (ft-bmp) 6.23' | Water Column in Well 8.46' | Gallons in Well 1.37 gals

Calc. Gallons Purged 5.5 gal | Pump Intake (ft-bmp) ~12.5' | Purge Method: Centrifugal ___ Submersible ___ Disp. Bailer ___ Other Peristaltic Pump | Sample Method Pump

Gallons Purged 5.5 gal | MP Elevation | Pump On/Off 1505 / 1700

Sample Time: Label 1600 | Replicate/ Code No. see bottom of page | Sampled by K Gibson

						0.1	3.0%	10%	10%	3.0%	10 mV		
Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (µmhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
1510	5	350	6.58	0.5	5.87	4.444	117.32	6.6	15.7	40.8	cloudy	none
1515	10	350	6.72	1.0	5.90	4.031	94.23	6.5	15.7	44.9	"	"
1520	15	350	6.72	1.5	5.89	4.078	92.87	0.41	15.8	47.3	"	"
1525	20	350	6.73	2.0	5.89	4.102	72.46	0.41	15.8	48.7	"	"
1530	25	350	6.73	2.5	5.92	4.077	54.50	0.40	15.7	49.2	slightly cloudy	"
1535	30	350	6.73	3.0	5.92	4.076	57.72	0.50	15.8	48.7	"	"
1540	35	350	6.73	3.5	5.91	4.075	46.16	0.49	15.8	49.9	"	"
1545	40	350	6.74	4.0	5.92	4.044	37.34	0.53	15.8	48.7	"	"
1550	45	350	6.74	4.5	5.92	4.066	27.93	0.35	15.8	48.3	"	"
1555	50	350	6.75	5.0	5.93	4.038	25.51	0.35	15.8	48.9	"	"
1600	55	350	6.75	5.5	5.93	4.046	26.14	0.34	15.7	48.7	"	"

Constituents Sampled	Container	Number	Preservative
VOC	VOA	3	HCl
SVOC	1L Amber	2	NA
Hex chrome	plastic 125	1	NA
Metals	250 plastic	1	HNO_3
Diss Metals	125 plastic	2	NA
		9 x 4	
		(Dup/MS/MSD)	

Well Information

Well Location: InNE field from buildings

Condition of Well: Fair good/new

Well Completion: Flush Mount / Stick Up

Well Locked at Arrival: Yes / No

Well Locked at Departure: Yes / No

Key Number To Well: 2343

NOTES: Dup collect @ 1550

MS/MSD also collected @ 1600

Well Casing Volumes

Gallons/Foot: 1" = 0.04; 1.25" = 0.06; 1.5" = 0.09; 2" = 0.16; 2.5" = 0.26; 3" = 0.37; 3.5" = 0.50; 4" = 0.65; 6" = 1.47

ARCADIS

Monitoring Well Development Log

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Project/No. Nike Bl52 Well MW-3 Date 9/21/2020

DTW (bgs) 6.17

Total Depth 14.00 Casing Diameter (inches) 2"

Water Level 8.94 Well Volume (gal) 0.824

Water Column 5.06 Total Volume Purged 35 gal

Pump On 1600 Pump Off 1730

Purge Method: Centrifugal ____ Submersible Waterra ____ Other ____

Developed By Ashlson

Well Casing Volumes

gallon/foot: 1-¼" = 0.06; 1-½" = 0.09; 2" = 0.16; 2-½" = 0.26; 3" = 0.37; 3-½" = 0.50; 4" = 0.65; 6" = 1.47

	Time	Minutes Elapsed	Rate (gpm) (mL/min)	DTW (ft)	Gallons Purged	pH	Specific Conductance (mS/cm)	Temp (C) (F)	Turbidity (NTU)	REMARKS (PID readings, color, odor, etc.)
9-10	1610	10	0.5	9.30	5.0 gal	6.71	3.922	20.53	71000	Muddy, no odor
10-11	1620	10	0.5	10.00	5.0 gal	6.55	4.610	18.30	>1000	"
11-12	1630	10	0.5	10.40	5.0 gal	6.57	5.285	19.03	71000	"
12-13	1640	10	0.5	10.95	5.0 gal	6.80	6.363	19.70	71000	"
13-14	1650	10	0.5	10.95	5.0 gal	6.73	6.965	19.63	71000	
14-bottom	1710	20	0.5	10.95	10 gal	6.56	7.667	16.90	71000	"

NHFLA-MW3 - SEP2020 @ 1305

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Groundwater Sampling Form

Project No. 30027953 | Well ID MW-3 | Date 9/24/2020

Project Name/Location Nike Bk 51/52 Hamburg, NY | Weather 70° Cloudy

Measuring Pt. Description TIC | Screen Setting (ft-bmp) | Casing Diameter (in.) 2" | Well Material X PVC ___ SS ___ Other

Total Depth (ft-bmp) 14.12 | Static Water Level (ft-bmp) 8.99' | Water Column in Well 5.13' | Gallons in Well 0.83 gal

Calc. Gallons Purged 6.5 | Pump Intake (ft-bmp) ~12' | Purge Method: Centrifugal ___ Submersible ___ | Sample Method Pump

Gallons Purged 6.5 | MP Elevation ___ | Disp. Bailer ___ Other Peristaltic Pump | Pump On/Off 1255/1335

Sample Time: Label 1305 | Replicate/ Code No. ___ | Sampled by KStilson

0.1 3.0% 10% 10% 3.0% 10mV

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (umhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
1200	5	350	9.34	0.5	6.06	12.956	362.02	0.40	16.4	27.7	Strong Cloudy	Done
1205	10	350	9.42	1.0	6.03	12.941	98.25	0.26	15.9	31.5	"	"
1210	15	350	9.49	1.5	6.03	12.939	116.46	0.21	15.7	32.5	Slight Cloudy	"
1215	20	350	9.49	2.0	6.02	13.144	91.81	0.18	15.8	35.8	"	"
1220	25	350	9.49	2.5	6.02	13.193	60.81	0.19	15.7	35.2	Clear	"
1225	30	350	9.49	3.0	6.02	13.237	55.25	0.19	15.8	35.4	"	"
1230	35	350	9.50	3.5	6.04	13.297	35.86	0.16	15.8	34.5	"	"
1235	40	350	9.50	4.0	6.03	13.334	32.66	0.15	15.8	34.2	"	"
1240	45	350	9.50	4.5	6.02	13.325	27.91	0.14	15.8	34.2	"	"
1245	50	350	9.50	5.0	6.02	13.345	28.14	0.13	15.8	34.3	"	"
1250	55	350	9.50	5.5	6.02	13.389	19.70	0.12	15.8	34.0	"	"
1255	60	350	9.50	6.0	6.03	13.307	19.60	0.12	15.7	34.1	"	"
1300	65	350	9.50	6.5	6.2	13.317	18.22	0.13	15.7	34.3	"	"

Constituents Sampled	Container	Number	Preservative
VOC	VOA	5	HCl
SVOC	1L Amber	2	NA
Hex Chrome	Plastic 125	1	NA
Metals	250 plastic	1	HNO_3
Diss Metals	125 plastic	2	NA

Well Information

Well Location: Northeast field of buildings

Condition of Well: GOOD

Well Completion: Flush Mount / (Stick Up)

Well Locked at Arrival: (Yes) / No

Well Locked at Departure: (Yes) / No

Key Number To Well: 2342

NOTES:

Well Casing Volumes

Gallons/Foot: 1" = 0.04 | 1.25" = 0.06 | 1.5" = 0.09 | 2" = 0.16 | 2.5" = 0.26 | 3" = 0.37 | 3.5" = 0.50 | 4" = 0.65 | 6" = 1.47

ARCADIS

Monitoring Well Development Log

Project/No. Nike Bu 51/52 Well MW403 Date 9/22/2020

DTW (bgs) 3.46

Total Depth 5.92 Casing Diameter (inches) 2"

Water Level 4.90 Well Volume (gal) 1.46 gal

Water Column 8.98 Total Volume Purged 50 gal

Pump On 1235 Pump Off 1415

Purge Method: Centrifugal ____ Submersible ____ Other Waterra

Developed By K Stilson

Well Casing Volumes

gallon/foot			
1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
1-½" = 0.09	2-½" = 0.25	3-½" = 0.50	6" = 1.47

	Time	Minutes Elapsed	Rate (gpm) (mL/min)	DTW (ft)	Gallons Purged	pH	Specific Conductance (mS/cm)	Temp. (F)	Turbidity (NTU)	REMARKS (PID readings, color, odor, etc.)
6-7	1245	10	0.5	6.98	5.0	6.92	2.984	18.9	>1000	Muddy no odor
7-8	1255	10	0.5	7.20	5.0	6.90	2.877	17.53	>1000	Muddy no odor
8-9	1305	10	0.5	7.71	5.0	6.98	2.1465	17.97	>1000	"
9-10	1315	10	0.5	7.55	5.0	7.53	2.116	15.74	>1000	"
10-11	1325	10	0.5	7.55	5.0	7.20	3.682	16.39	>1000	"
11-12	1335	10	0.5	7.32	5.0	7.14	3.801	16.42	>1000	"
12-13	1345	10	0.5	7.40	5.0	7.15	4.121	16.71	>1000	"
13-14	1355	10	0.5	7.65	5.0	7.07	4.574	17.82	>1000	"
14-B.S.	1415	20	0.5	7.70	10.0	7.05	4.361	16.54	>1000	"

ARCADIS

Groundwater Sampling Form

Project No. 30027453 | Well ID MW40B | Date 9/29/2020

Project Name/Location Nike Dump 52 Hamburg | Weather 70° Cloudy

Measuring Pt. Description TIC | Screen Setting (ft-bmp) | Casing Diameter (in.) 2" | Well Material X PVC / SS / Other

Total Depth (ft-bmp) 15.15' | Static Water Level (ft-bmp) 6.33' | Water Column in Well 8.82' | Gallons in Well 1.4 gal

Calc. Gallons Purged 4.5 gal | Pump Intake (ft-bmp) ~13' | Purge Method: Centrifugal / Submersible ~~Geo Pump~~ / Disp. Bailer / Other Peristaltic pump | Sample Method Peristaltic pump

Gallons Purged 4.5 gal | MP Elevation | Pump On/Off 1215 / 1330

Sample Time: Label 1305 | Replicate/ Code No. — | Sampled by KStilson

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (µmhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
1220	5	350	6.48	0.5	6.23	9.369	180.93	0.28	16.2	-34.6	Slight cloudy	none
1225	10	350	6.48	1.0	6.41	8.388	126.71	0.41	16.3	-40.9	"	"
1230	15	350	6.48	1.5	6.49	7.984	94.32	0.25	16.2	-49.5	"	"
1235	20	350	6.49	2.0	6.56	7.574	58.32	0.16	16.2	-58.3	"	"
1240	25	350	6.49	2.5	6.61	7.447	45.58	0.17	16.2	-53.3	"	"
1245	30	350	6.49	3.0	6.65	7.255	33.23	0.17	16.2	-61.0	"	"
1250	35	350	6.49	3.5	6.66	7.221	32.84	0.13	16.2	-64.6	"	"
1255	40	350	6.49	4.0	6.68	7.165	31.45	0.13	16.2	-62.9	"	"
1300	45	350	6.49	4.5	6.69	7.133	29.99	0.13	16.2	-68.6	"	"

Constituents Sampled	Container	Number	Preservative
VOC	VOA	3	HCl
SVOC	1L Amber	2	NA
Metals	250 mL plastic	1	HNO_3
Hex Chrom	125 mL plastic	1	NA
Diss Metals	250 plastic	1	NA

Well Information

Well Location: next to building | Well Locked at Arrival: (Yes) / No

Condition of Well: Good | Well Locked at Departure: (Yes) / No

Well Completion: Flush Mount / (Stick Up) | Key Number To Well: 2343

NOTES:

Well Casing Volumes

Gallons/Foot: 1" = 0.04 | 1.25" = 0.06 | 1.5" = 0.09 | 2" = 0.16 | 2.5" = 0.26 | 3" = 0.37 | 3.5" = 0.50 | 4" = 0.65 | 6" = 1.47

ARCADIS

Monitoring Well Development Log

Project/No. Nike Bu 51/52 Hamburg Well MW4BR Date 9/22/2020 - 9/24/2020

DTW(avg) 3.24'

Total Depth 27.74 Casing Diameter (inches) 2" Purge Method Centrifugal

Water Level 5.90 Well Volume (gal) 3.5 gal Submersible whale pump

Water Column 21.84 Total Volume Purged 6.0 Other

Pump On 1308/1120/1730 Pump Off 1310/1121/1731 Developed By K Stilson

Well Casing Volumes

gallon/foot				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

Time	Minutes Elapsed	Rate (gpm) (mL/min)	DTW (ft)	Gallons Purged	pH	Specific Conductance (mS/cm)	Temp. (C) (F)	Turbidity (NTU)	REMARKS (PID readings, color, odor, etc.)
9/22/2020 1310	2	~2	Dry	~3.5gal	7.24	3.635	16.46	>1000	Muddy no odor
1340			25.60						
1400			25.25						
9/23/2020 1120	15sec	~2	24.86	1.0gal	6.80	2.018	19.82	>1000	Muddy no odor
9/24/2020 1730		~2	23.80	10.5gal	7.39	4.338	16.3	71000	Muddy no odor

16.87

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Groundwater Sampling Form

Project No. 30027953 | Well ID NW4BR | Date 9/29/2020

Project Name/Location Nike BU 51/52 Hamburg NY | Weather 70°C Cloudy

Measuring Pt. Description TIC | Screen Setting (ft-bmp) | Casing Diameter (in.) 2" | Well Material ✓ PVC / SS / Other

Total Depth (ft-bmp) 28.14' | Static Water Level (ft-bmp) 13.88' | Water Column in Well 14.26' | Gallons in Well 2.32 gal

Calc. Gallons Purged 1.5 gal | Pump Intake (ft-bmp) ~26' | Purge Method: Centrifugal / Submersible / Disp. Bailer / Other Peri Pump | Sample Method Peri Pump

Gallons Purged 1.5 gal | MP Elevation | Pump On/Off 1335/1405

Sample Time: Label 1410 | Replicate/ Code No. — | Sampled by KStilson

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (µmhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
1340	5	250	16.09	0.25	7.20	6.365	74.36	3.79	13.9	60.2	Brown Cloudy	None
1345	10	250	18.11	0.50	7.62	6.375	14.12	5.10	14.1	90.5	Clear	None
1350	15	250	19.94	0.75	7.17	6.355	33.79	3.63	14.0	100.7	"	"
1355	20	250	21.56	1.00	7.20	6.213	99.36	4.55	14.5	121.0	"	"
1400	25	250	22.82	1.25	7.22	6.207	101.87	4.53	14.5	121.7	"	"
1405	30	250	23.14	1.50	7.20	6.200	100.76	4.50	14.5	121.3	"	"

Constituents Sampled	Container	Number	Preservative
VOC	VOA	3	HCl
SVOC	1L Amber	2	NA
Diss Metal	250 plastic	1	NA
Hex Chrome	1250 125 plastic	1	NA
Metals	250 plastic	1	HNO_3

Well Information

Well Location: next to building

Condition of Well: Good

Well Completion: Flush Mount / Stick Up

Well Locked at Arrival: Yes / No

Well Locked at Departure: Yes / No

Key Number To Well: 2543

NOTES:

Well Casing Volumes

Gallons/Foot: 1" = 0.04 | 1.25" = 0.06 | 1.5" = 0.09 | 2" = 0.16 | 2.5" = 0.26 | 3" = 0.37 | 3.5" = 0.50 | 4" = 0.65 | 6" = 1.47

ARCADIS

Monitoring Well Development Log

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Project/No. Nike Bu 51/52 Well MW503 Date 9/21/20

Casing Diameter (inches) 2"

17.60' Total Depth 21.11' Well Volume (gal) 2.48gal

2.82' Water Level 5.90' Total Volume Purged 40gal

Water Column 15.21' Pump Off 15:09

Pump On 1359

Purge Method: Centrifugal ____ Submersible ____ Other Waterra

Developed By J. Duquette

Well Casing Volumes

gallon/foot

1-¼" = 0.06 | 1-½" = 0.09 | 2" = 0.16 | 2-½" = 0.26 | 3" = 0.37 | 3-½" = 0.50 | 4" = 0.65 | 6" = 1.47

Time	Minutes Elapsed	Rate (gpm)	DTW (ft)	Gallons Purged	pH	Specific Conductance (mS/cm)	Temp. (C)	Turbidity (NTU)	REMARKS (PID readings, color, odor, etc.)
1409	10	0.5	10.10	05	6.51	3.715	19.2	>1000	Brown, no odor
1419	20	0.5	9.98	10	7.23	4.146	18.5	>1000	Brown, no odor
1429	30	0.5	9.68	15	7.41	3.988	18.1	>1000	Brown, no odor
1439	40	0.5	9.81	20	7.33	4469	17.5	>1000	"
1449	50	0.5	9.96	25	737	4.400	17.1	>1000	"
1459	60	0.5	9.74	30	7.28	3.668	18.0	>1000	"
1519	80	0.5	9.94	40	7.64	4.948	17.7	820	"

ARCADIS

Groundwater Sampling Form

Project No. 30027953 | Well ID MW50B | Date 9/23/20

Project Name/Location Niagara BU 51/52 Hamburg, NY | Weather 72°F Sun

Measuring Pt. Description TIC | Screen Setting (ft-bmp) 14.12'-21.12' | Casing Diameter (in.) 2 | Well Material ✓PVC ___SS ___Other

Total Depth (ft-bmp) 21.12' | Static Water Level (ft-bmp) 5.79' | Water Column in Well 15.33' | Gallons in Well 2.5gal

Calc. Gallons Purged 3.0 | Pump Intake (ft-bmp) 17.6' | Purge Method: Centrifugal Submersible ___ | Sample Method Grab

Gallons Purged 3.0 | MP Elevation — | Disp. Bailer Other peristaltic | Pump On/Off 1430/1525

Sample Time: Label 1510 | Replicate/ Code No. MS/MSD | Sampled by J. Duquette

Time	Minutes Elapsed	Rate ~~(gpm)~~ (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. ~~(umhos)~~ (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) ~~(°F)~~	Redox (mV)	Appearance	
											Color	Odor
1435	—	~~300~~ 375	6.15	—	6.97	5.968	737.0	3.36	17.3	-147.1	Clear	no
1440	5	~~300~~ 375	6.71	0.5	6.80	5.628	254.3	0.81	16.5	-162.1	Clear	no
1445	10	375	6.71	1.0	6.80	5.556	610.7	0.39	16.5	-181.7	Clear	no
1450	15	375	6.71	1.5	6.82	5.552	14.00	0.27	16.2	-183.5	Clear	no
1455	20	375	6.71	2.0	6.79	5.530	14.81	0.37	16.2	-196.8	Clear	no
1500	25	375	6.71	2.5	6.80	5.533	6.63	0.38	16.0	-205.5	Clear	no
1505	30	375	6.71	3.0	6.80	5.532	2.15	0.39	16.0	-204.9	Clear	no

Constituents Sampled	Container	Number	Preservative
VOC	10A 40mL	3	HCl
SVOC	1L Amber	2	—
Hex Chrom.	125mL Plastic	1	—
Metals	250mL Plastic	1	HNO_3
Diss. Metals	125mL Plastic	2	—

Well Information

Well Location: South End. | Well Locked at Arrival: (Yes) / No

Condition of Well: Fair | Well Locked at Departure: (Yes) / No

Well Completion: Flush Mount / (Stick Up) | Key Number To Well: 2342

NOTES: @ 1445, flushed flowthrough cell to fix turb issues.
MS/MSD taken

Well Casing Volumes

Gallons/Foot: 1" = 0.04 | 1.25" = 0.06 | 1.5" = 0.09 | 2" = 0.16 | 2.5" = 0.26 | 3" = 0.37 | 3.5" = 0.50 | 4" = 0.65 | 6" = 1.47

ARCADIS

Monitoring Well Development Log

Project/No. Nike Bu 51/52 Well MW53R Date 9/21/20

36.12' Total Depth 39.12' Casing Diameter (inches) 2" Purge Method Centrifugal ____

0.72' Water Level 3.72' Well Volume (gal) 5.7 gal Submersible ✓ Whale

Water Column 35.4' Total Volume Purged 6.75 gal Other ____

Pump On 1600 9/21/20 Pump Off 8:55 9/23/20 Developed By J Duquette

Well Casing Volumes

gallon/foot				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

Time	Minutes Elapsed	Rate (gpm) (mL/min)	DTW (ft)	Gallons Purged	pH	Specific Conductance (mS/cm)	Temp. (C)	Turbidity (NTU)	REMARKS (PID readings, color, odor, etc.)
9/21/20 1608	—	—	Dry	5.7	8.16	1.524	16.4	6925	Brown, Slight odor
9/22/20 0800	—	—	35.31	0.75/6.5	7.79	3.740	13.0	>1000	Brown, Slight odor
9/23/20 0853	—	—	37.36	0.75/6.75	7.96	2.994	17.3	>1000	Brown, Slight

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ARCADIS

Groundwater Sampling Form

Project No. 30027953 | Well ID MW-5BR | Date 9/25/2020

Project Name/Location Nike Battery 51/52 Hamburg | Weather 75° Sunny

Well Material ✓ PVC ___ SS ___ Other

Measuring Pt. Description TIC | Screen Setting (ft-bmp) ___ | Casing Diameter (in.) 2"

Total Depth (ft-bmp) 41.82' | Static Water Level (ft-bmp) 38.38' | Water Column in Well 3.44' | Gallons in Well 0.5

Calc. Gallons Purged ~0.55 gal | Pump Intake (ft-bmp) ~40 | Purge Method: Centrifugal ___ Submersible ___ | Sample Method bailer Geopump

Gallons Purged ~0.55 gal | MP Elevation ___ | Disp. Bailer Other Peristaltic Pump | Pump On/Off 1640/17.20

Sample Time: Label ___ | Replicate/ Code No. — | Sampled by K. Stalsom

Time	Minutes Elapsed	Rate (ml/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°F)	Redox (mV)	Appearance Color	Appearance Odor
9/25 1645	5	250	39.09	0.15	7.64	4.485	>1000	3.26	19.5	130.6	Brown Muddy	none
1650	10	150	39.49	0.25	7.55	4.549	>1000	5.61	19.6	123.4	"	"
1655	15	150	39.66	0.35	7.59	4.571	>1000	6.24	19.9	122.7	"	"
1700	20	150	40.11	0.40	7.59	4.564	>1000	6.75	20.3	124.0	"	"
1705	25	150	40.58	0.45	7.63	4.555	>1000	7.12	21.1	122.3	"	"
1710	30	150	40.89	0.50	7.84	4.732	>1000	8.77	20.1	130.1	"	"
1715	35	150	41.44	0.55	8.01	4.833	>1000	8.91	20.0	133.3	"	"
1720	40	150	DRY	0.55	—	—	—	—	—	—	—	—
9/24 1500	—	bailer	39.24		7.39	4.722	60.79	2.23	15.3	145.1	Clear colorless	No odor

Pump Shut off to build up water in bottom

Constituents Sampled	Container	Number	Preservative
VOC	VOA	3	HCl
SVOC	1L Amber	(3) 1	NA
Metal	250 plastic	1	HNO3
Hex Chrome	125 plastic	1	NA
Diss Metals	250 plastic	1	NA

Well Information

Well Location: south end | Well Locked at Arrival: (Yes) / No

Condition of Well: Good | Well Locked at Departure: (Yes) / No

Well Completion: Flush Mount / (Stick Up) | Key Number To Well: 2342

NOTES: * 1 Solo Pump with low water level. Well ran dry @ 1720. 9/25/2020. 9/24/2020 Due to limited volume 1 SVOC (1L Amber) collected

Well Casing Volumes

Gallons/Foot: 1" = 0.04 | 1.25" = 0.06 | 1.5" = 0.09 | 2" = 0.16 | 2.5" = 0.26 | 3" = 0.37 | 3.5" = 0.50 | 4" = 0.65 | 6" = 1.47

ARCADIS

Monitoring Well Development Log

Project/No. Nike B1/SD Well MW-6 Date 9/22/2010

DTW(top) 4.50'

Total Depth 13.06' Casing Diameter (inches) 2"

Water Level 6.70' Well Volume (gal) 1.03 gal

Water Column 6.36' Total Volume Purged 45 gal

Pump On 0810 Pump Off 0940

Purge Method: Centrifugal ____ Submersible ____ Other Waterra

Developed By KSH/SDL

Well Casing Volumes

gallon/foot				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

	Time	Minutes Elapsed	Rate (gpm) (mL/min)	DTW (ft)	Gallons Purged	pH	Specific Conductance (mS/cm)	Temp. (C) (F)	Turbidity (NTU)	REMARKS (PID readings, color, odor, etc.)
6-7	0820	10	0.5	6.78	5.0	6.30	2879	14.83	>1000	Muddy, no odor
7-8	0830	10	0.5	7.05	5.0	5.95	2.880	15.90	>1000	"
8-9	0840	10	0.5	7.13	5.0	6.02	2.734	15.74	>1000	"
9-10	0850	10	0.5	8.60	5.0	6.09	2.862	16.86	>1000	"
10-11	0900	10	0.5	8.99	5.0	6.24	3.370	17.02	>1000	"
11-12	0910	10	0.5	9.10	5.0	6.29	3.642	16.93	>1000	"
12-13	0920	10	0.5	9.30	5.0	6.33	4.242	16.63	>1000	"
13 bottom	0940	20	0.5	9.75	10.0	6.35	4.197	16.70	>1000	"

2.4
0.4 2.2

ARCADIS

Groundwater Sampling Form

Project No. 30027953 | Well ID MW-6 | Date 9/24/2020

Project Name/Location Nike BU 51/52 Hamburg NY | Weather 70° Cloudy

Well Material X PVC / SS / Other

Measuring Pt. Description TIC | Screen Setting (ft-bmp) | Casing Diameter (in.) 2"

Total Depth (ft-bmp) 13.82' | Static Water Level (ft-bmp) 6.87' | Water Column in Well 6.95' | Gallons in Well 1.13gal

Calc. Gallons Purged ~7.25 | Pump Intake (ft-bmp) ~11.81 | Purge Method: Centrifugal Submersible | Sample Method geo pump

Gallons Purged ~7.25 (1525) | MP Elevation | Disp. Bailer Other ~~peristaltic pump~~ | Pump On/Off 1345/1450

Sample Time: Label (1525) | Replicate/ Code No. — | Sampled by KStilson

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (µmhos) mS/cm	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
1350	5	350	7.40	0.5	6.27	6.809	136.58	1.74	17.9	93.3	Brown cloudy	None
1355	10	350	7.59	1.0	6.15	7.040	150.67	1.65	18.0	90.5	"	"
1400	15	350	7.77	1.5	6.08	7.505	235.36	1.31	17.7	83.5	"	"
1405	20	350	7.93	2.0	6.16	7.602	219.25	1.58	17.6	73.4	"	"
1410	25	350	8.01	2.5	6.13	8.516	160.72	0.93	17.5	58.9	"	"
1415	30	350	8.06	3.0	6.23	8.943	162.60	0.76	17.5	43.2	"	"
1420	35	350	8.10	3.5	6.21	8.988	161.76	0.73	17.4	42.9	"	"
1425	40	350	8.13	4.0	6.29	9.681	89.35	0.41	17.3	26.7	"	"
1430	45	250	8.11	4.16	6.34	10.030	69.75	0.26	17.4	18.4	"	"
1435	50	250	8.12	4.49	6.33	10.031	79.64	0.26	17.5	20.1	"	"
1440	55	250	8.13	4.82	6.31	10.018	113.54	0.29	17.6	20.4	"	"
1445	60	250	8.13	5.15	6.33	10.233	101.39	0.28	17.7	20.1	"	"
1450	65	250	8.12	5.48	6.35	10.319	100.83	0.27	17.6	10.9	"	"

Constituents Sampled	Container	Number	Preservative
VOC	VOA	3	HCl
SVOC	1L Amber	2	NA
Hex Chrome	plastic 125	1	NA
Metals	250 plastic	1	HNO3
Diss Metals	125 plastic	2	NA

Well Information

Well Location: South of Acid Sampling Station | Well Locked at Arrival: Yes / No

Condition of Well: Fair ~~good~~/new | Well Locked at Departure: Yes / No

Well Completion: Flush Mount / Stick Up | Key Number To Well: 2342

NOTES: @ 1425 reduce rate from 350 to 250 to stabalize water level

Well Casing Volumes

Gallons/Foot: 1" = 0.04; 1.25" = 0.06; 1.5" = 0.09; 2" = 0.16; 2.5" = 0.26; 3" = 0.37; 3.5" = 0.50; 4" = 0.65; 6" = 1.47

ARCADIS

Groundwater Sampling Form

Project No. 30027953 | Well ID MW-6 | Date 9/24/2020

Project Name/Location Nike BL 51/52 Hamburg NY | Weather 75 cloudy

Well Material: X PVC, ___ SS, ___ Other

Measuring Pt. Description TIC | Screen Setting (ft-bmp) ___ | Casing Diameter (in.) 2"

Total Depth (ft-bmp) 13.82 | Static Water Level (ft-bmp) 6.87' | Water Column in Well 6.95' | Gallons in Well 1.13 gal

Calc. Gallons Purged ~7.25 | Pump Intake (ft-bmp) ~11.8' | Purge Method: Centrifugal ___, Submersible ___, Disp. Bailer ___, Other peristaltic pump | Sample Method grab pump

Gallons Purged ~7.25 | MP Elevation — | Pump On/Off 1345 / 1520

Sample Time: Label 1525 | Replicate/ Code No. — | Sampled by KSilson

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (µmhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance: Color	Appearance: Odor
1455	70	250	8.12	5.60	6.35	10.441	69.89	0.21	12.6	10.7	clear	none
1500	75	250	8.13	5.93	6.31	10.466	43.71	0.16	12.5	10.4	clear	none
1505	80	250	8.13	6.26	6.31	10.403	112.26	0.24	12.1	23.2	Brown cloudy	"
1510	85	250	8.14	6.59	6.36	10.345	65.88	0.31	12.2	18.9	"	"
1515	90	250	8.14	6.92	6.35	10.403	69.13	0.30	12.2	12.4	"	"
1520	95	250	8.14	7.25	6.35	10.481	60.99	0.28	12.2	13.5	"	"

Constituents Sampled	Container	Number	Preservative
See page 1.			

Well Information

Well Location: South of Acid Feeding Station | Well Locked at Arrival: Yes / No

Condition of Well: Fair good / new | Well Locked at Departure: Yes / No

Well Completion: Flush Mount / Stick Up | Key Number To Well: 2342

NOTES: Collect NHFLA-MW6-SEP2020 @ 1525

Well Casing Volumes

Gallons/Foot: 1" = 0.04; 1.25" = 0.06; 1.5" = 0.09; 2" = 0.16; 2.5" = 0.26; 3" = 0.37; 3.5" = 0.50; 4" = 0.65; 6" = 1.47

ARCADIS

Monitoring Well Development Log

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Project/No. Alla Bu, SI/S2 Well MW-08 Date 9-10-20

Total Depth 14.06/10.24 (BTOC / BGS) Casing Diameter (inches) 2" Purge Method

Water Level 6.40/3.07 Well Volume (gal) 1.23 Centrifugal ____

Water Column 7.66 Total Volume Purged 42.25 Submersible ____

Pump On 10:45 Pump Off 12:25 Other waterra

Developed By AS

Well Casing Volumes

gallon/foot				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

Time	Minutes Elapsed	Rate (gpm) (mL/min)	DTW (ft)	Gallons Purged	pH	Specific Conductance (mS/cm)	Temp. (C) (F)	Turbidity (NTU)	REMARKS (PID readings, color, odor, etc.)	
1045	0	0.75	6.40							
10:50	5	0.75	6.45	3.75	7.87	0.168	19.42	<1000		8
10:55	10	0.50	6.73	6.25	7.51	0.652	19.35	<1000		
11:00	15	0.50	7.05	8.75	7.38	0.693	19.47	<1000		7
11:05	20	0.50	[illegible]	11.25	7.35	0.693	19.40	<1000		
11:10	25	0.50	[illegible]	13.75	7.06	0.693	18.85	<1000		6
11:15	30	0.50	[illegible]	16.25	7.01	0.687	18.93	<1000		
11:20	35	0.50	[illegible]	18.75				<1000		5
11:25	40	0.50	7.19	21.25	7.17	0.680	18.30	<1000		
11:30	45	0.50	7.23	23.75	7.19	0.696	18.31	<1000		4
11:35	50	0.50	7.25	26.25	7.17	0.697	18.29	<1000		
11:40	55	0.50	7.19	28.75	7.20	0.682	18.03	<1000		3
11:45	60	0.50	7.24	30.25	7.18	0.679	17.45	<1000		
11:50	65	0.50	7.34	32.75	7.25	0.684	17.67	<1000		2
11:55	70	0.50	7.58	35.25				<1000		
12:00	75	0.50	7.26	37.75	7.47	0.685	17.08	<1000		1
12:05	80	0.50	7.27	40.25				<1000		
12:25	100	0.50	6.61	42.25	7.44	0.693	18.40	<1000		

Total 42.25 gal

BGS

ARCADIS

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Groundwater Sampling Form

Project No. 30027953 Well ID MW70B Date 9/29/2020

Project Name/Location Nike Bus 51/52 Hamburg NY Weather 70° cloudy

Measuring Pt. Description TOC Screen Setting (ft-bmp) Casing Diameter (in.) 2" Well Material X PVC ___ SS ___ Other

Total Depth (ft-bmp) 14.01 TOC Static Water Level (ft-bmp) 7.48 Water Column in Well 6.53' Gallons in Well 1.06 gal

Calc. Gallons Purged 4.75 Pump Intake (ft-bmp) ~12' Purge Method: Centrifugal ___ Submersible ___ Sample Method Peristaltic pump

Gallons Purged 4.8 MP Elevation ___ Disp. Bailer ___ Pump On/Off 15:10 / 16:10

Sample Time: Label 16:10 Replicate/ Code No. ___ Other ___ Sampled by KC

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (µmhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
15:10	0	300	7.48	0	7.84	0.694	3	0.71	16.6	112.5	clear	none
15:15	5	300	7.53	0.4	8.02	0.691	3	0.55	16.7	108.5	clear	none
15:20	10	300	7.59	0.8	8.23	0.691	4	0.34	16.6	94.0	clear	none
15:25	15	300	7.52	1.2	8.33	0.692	5	0.26	16.7	82.2	clear	none
15:30	20	300	7.52	1.6	8.38	0.692	9	0.24	16.9	75.3	clear	none
15:35	25	300	7.52	2.0	8.42	0.688	12	0.34	16.8	62.6	clear	none
15:40	30	300	7.52	2.4	8.45	0.690	19	0.36	16.7	56.3	clear	none
15:45	35	300	7.52	2.8	8.48	0.691	24	0.34	16.8	50.7	clear	none
15:50	40	300	7.54	3.2	8.49	0.691	28	0.27	16.8	45.3	clear	none
15:55	45	300	7.56	3.6	8.42	0.666	30	0.22	16.9	40.3	clear	none
16:00	50	300	7.55	4.0	8.48	0.684	22	0.17	16.7	35.6	clear	none
16:05	55	300	7.53	4.4	8.49	0.687	18	0.12	16.7	28.4	clear	none
16:10	60	300	7.52	4.8	8.50	0.690	14	0.16	16.7	25.2	clear	none

Constituents Sampled	Container	Number	Preservative
VOC	VOA	3	HCl
SVOC	Liter Amber	2	NA
Metals	250 plastic	1	NA
Diss metals	250 plastic	1	H/NO3
Hex chrome	250 plastic	1	NA
		(6) X3	
		MS/MSD	

Well Information

Well Location: by stormwater ditch

Condition of Well: new

Well Completion: Flush Mount / (Stick Up)

Well Locked at Arrival: (Yes) / No

Well Locked at Departure: (Yes) / No

Key Number To Well:

NOTES: NHFLA-MW70B-SEP2020
NHFLA-MS-SEP2020
NHFLA-MSD-SEP2020

Well Casing Volumes

Gallons/Foot: 1" = 0.04; 1.25" = 0.06; 1.5" = 0.09; 2" = 0.16; 2.5" = 0.26; 3" = 0.37; 3.5" = 0.50; 4" = 0.65; 6" = 1.47

ARCADIS

Monitoring Well Development Log

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Project/No. Nike Bru 51/52 Well MW-7BR Date 9/22/20

Purge Method: Centrifugal ____ Submersible J (Whale) Other ____

Developed By K Stetson

Total Depth	27.12	Casing Diameter (inches)	2"
Water Level	6.88	Well Volume (gal)	3.3 gal
Water Column	20.24	Total Volume Purged	21 gal
Pump On	0905	Pump Off	9:33

(24.44, 4.14)

Well Casing Volumes

gallon/foot: 1-¼" = 0.06; 1-½" = 0.09; 2" = 0.16; 2-½" = 0.26; 3" = 0.37; 3-½" = 0.50; 4" = 0.65; 6" = 1.47

Time	Minutes Elapsed	Rate (gpm)	DTW (ft)	Gallons Purged	pH	Specific Conductance (mS/cm)	Temp. (C)	Turbidity (NTU)	REMARKS (PID readings, color, odor, etc.)
0909			10.01	3.5	8.30	0.741	13.9	834	Murky
0915	13	1	9.81	7.0	8.79	0.750	13.9	490	murky
0918	3	1	14.58	10.5	8.92	0.768	13.9	469	murky
0921	3	1	15.18	14	8.95	0.780	13.8	461	murky
0936	9	1	13.26	17.5	8.92	0.782	13.7	326	murky
0933	3	1	13.83	21	8.91	0.785	13.7	278	murky

ARCADIS

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Groundwater Sampling Form

Project No. 30027953 | Well ID MW7BR | Date 9/30/2020

Project Name/Location Nike BH 51/52 Hamburg | Weather 70°C Cloudy

Well Material X PVC ___ SS ___ Other

Measuring Pt. Description TIC | Screen Setting (ft-bmp) ___ | Casing Diameter (in.) 2"

Total Depth (ft-bmp) 27.22 | Static Water Level (ft-bmp) 7.05' | Water Column in Well 20.17' | Gallons in Well 3.28gal

Calc. Gallons Purged 3.0gal | Pump Intake (ft-bmp) ~25' | Purge Method: Centrifugal ___ Submersible ___ Disp. Bailer ___ Other geo pump | Sample Method geo pump

Gallons Purged 3.0gal | MP Elevation ___ | Pump On/Off 1220/1250

Sample Time: Label 1305 | Replicate/Code No. NHFLA-DUP13-30SEP2020 @ 1300 | Sampled by K Stilson

Time	Minutes Elapsed	Rate (gpm) mL/min	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (µmhos) mS/cm	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. °C °F	Redox (mV)	Appearance Color	Appearance Odor
				0.5	9.03	0.874	12.91	0.65	13.3	132.0	clear	none
1225	5	350	7.46									
1230	10	350	7.58	1.0	9.25	0.843	8.13	0.29	13.7	125.6	"	"
1235	15	350	7.63	1.5	9.23	0.848	4.99	0.22	13.9	118.9	"	"
1240	20	352	7.65	2.0	9.24	0.848	3.25	0.11	13.9	111.2	"	"
1245	25	352	7.67	2.5	9.23	0.850	3.29	0.10	13.9	110.8	"	"
1250	30	350	7.67	3.0	9.23	0.849	3.15	0.11	13.9	110.5	"	"

Constituents Sampled	Container	Number	Preservative
VOC	VOA	6	HCl
SVOC	1L Amber	4	NA
Hexchrome	125 or 250 plastic	2	NA
Metals	250 plastic	2	HNO_3
Diss Metals	250 plastic	2	NA

Well Information

Well Location: By Stormwater ditch

Condition of Well: Good

Well Completion: Flush Mount / (Stick Up)

Well Locked at Arrival: (Yes) / No

Well Locked at Departure: (Yes) / No

Key Number To Well: 2342

NOTES: DUP collected @ 1300 - NHFLA-DUP13-30SEP2020

Well Casing Volumes

Gallons/Foot: 1" = 0.04; 1.25" = 0.06; 1.5" = 0.09; 2" = 0.16; 2.5" = 0.26; 3" = 0.37; 3.5" = 0.50; 4" = 0.65; 6" = 1.47

06

ARCADIS

Monitoring Well Development Log

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Project/No. Nike BR 51/52 Well MW8 Date 9-9-2020

Total Depth 14'4" TOC 11'6" Casing Diameter (inches) 2" Purge Method Centrifugal ____

Water Level 5'2" TOC 2'5" Well Volume (gal) 1.36 Submersible ____

Water Column 8.5 Total Volume Purged 52.5 gal Other Waterra

Pump On 13:00 Pump Off 14:45 Developed By AS

Well Casing Volumes

gallon/foot | 1-¼" = 0.06 | 1-½" = 0.09 | 2" = 0.16 | 2-½" = 0.26 | 3" = 0.37 | 3-½" = 0.50 | 4" = 0.65 | 6" = 1.47

Time	Minutes Elapsed	Rate (gpm) (mL/min)	DTW (ft) TOC	Gallons Purged	pH	Specific Conductance (mS/cm)	Temp. (C) (F)	Turbidity (NTU)	REMARKS (PID readings, color, odor, etc.)
1:00	0	.5	2.5	0	6.93	1.329	21.10	71000	
1:05	5	.5	2.5	2.5	6.56	1.330	19.65	>1000	
1:10	10	.5	6.3	5	6.40	1.322	20.15	>1000	moved down 1'
1:15	15	.5	6.3	7.5	6.21	1.353	19.71	>1000	
1:20	20	.5	6.0	10	6.19	1.345	19.70	>1000	moved down 1'
1:25	25	.5	6.0	12.5	6.02	1.347	19.38	>1000	
1:30	30	.5	6.0	15	5.94	1.350	19.59	>1000	
1:35	35	.5	6.5	17.5	5.87	1.354	19.46	>1000	moved down 1'
1:40	40	.5	6.5	20	5.78	1.364	19.52	>1000	
1:45	45	.5	6.8	22.5	5.68	1.361	18.44	>1000	moved down 1'
1:50	50	.5	6.8	25	5.63	1.371	18.77	>1000	
1:55	55	.5	6.8	27.5	5.59	1.367	18.47	>1000	
2:00	60	.5	6.0	30	5.71	1.344	18.42	>1000	moved down 1'
2:05	65	.5	6.0	32.5	5.75	1.332	18.40	>1000	
2:10	70	.5	6.0	35	5.72	1.328	18.42	>1000	
2:15	75	.5	6.7	37.5	5.56	1.367	17.65	>1000	moved down 1'
2:20	80	.5	6.7	40	6.02	1.324	17.00	>1000	
2:25	85	.5	6.7	42.5	5.55	1.373	17.13	>1000	
2:30	90	.5	6.7	45	5.50	1.382	16.70	>1000	
2:35	95	.5	6.7	47.5	5.48	1.382	17.06	>1000	
2:40	100	.5	6.7	50	5.38	1.387	17.01	>1000	
2:45	105	.5	6.7	52.5	5.39	1.383	16.99	>1000	

ARCADIS

Groundwater Sampling Form

Project No. 30027953 | Well ID MW 8 | Date 9/25/2020

Project Name/Location Nike BG 51/52 Hamburg, NY | Weather 75° Sunny

Measuring Pt. Description TIC | Screen Setting (ft-bmp) | Casing Diameter (in.) 2" | Well Material X PVC ___ SS ___ Other

Total Depth (ft-bmp) 13.82' | Static Water Level (ft-bmp) 6.30' | Water Column in Well 7.53' | Gallons in Well 1.2 gal

Calc. Gallons Purged 4.0 gal | Pump Intake (ft-bmp) ~11.8' | Purge Method: | Sample Method Pump

Gallons Purged 4.0 gal | MP Elevation | Centrifugal Submersible | Pump On/Off 1200/1240

Sample Time: Label 1245 | Replicate/ Code No. — | Disp. Bailer Other Peristaltic Pump | Sampled by KStilson

						0.1	3%	10%	10%	3%	10mV		
Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (µmhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
1205	5	350	6.47	0.5	6.35	1.543	372.43	0.42	17.5	20.6	Brown	None
1210	10	350	6.48	1.0	6.07	1.531	49.00	0.21	17.7	42.9	clear	None
1215	15	350	6.49	1.5	5.95	1.532	33.39	0.17	17.6	49.3	"	"
1220	20	350	6.49	2.0	5.81	1.531	24.08	0.15	17.6	53.4	"	"
1225	25	350	6.50	2.5	5.81	1.530	23.46	0.19	17.7	22.74	"	"
1230	30	350	6.50	3.0	5.78	1.530	17.13	0.17	17.5	61.3	"	"
1235	35	350	6.50	3.5	5.79	1.526	19.01	0.15	17.5	63.9	"	"
1240	40	350	6.50	4.0	5.77	1.525	16.83	0.14	17.6	65.5	"	"

Constituents Sampled	Container	Number	Preservative
VOC	VOA	3	HCl
SVOC	1L Amber	2	NA
Hex Chrome	125 plastic	1	NA
Metal	250 plastic	1	HNO3
Diss Metals	1L Amber	1	NA

Well Information

Well Location: Northwest corner of property | Well Locked at Arrival: (Yes) / No

Condition of Well: good | Well Locked at Departure: (Yes) / No

Well Completion: Flush Mount / (Stick Up) | Key Number To Well: 2342

NOTES: 1245 Collect NHFLA-MW8-SEP2020

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

ARCADIS

Monitoring Well Development Log

Page 1 of 1

Project/No. N/A Bu 51152 Well MW903 Date 9-9-2020

Total Depth 1963 / 10.83 Casing Diameter (inches) 2"

Water Level 5.86 (Tape) 2.07 (Sonic) Well Volume (gal) 1.43

Water Column 8.76 Total Volume Purged 10 gal

Pump On 7:50 Pump Off 11:10

Purge Method: Centrifugal ____ Submersible ____ Other Whatman

Developed By J. Braton

Well Casing Volumes

gallon/foot: 1-¼" = 0.06; 1-½" = 0.09; 2" = 0.16; 2-½" = 0.26; 3" = 0.37; 3-½" = 0.50; 4" = 0.65; 6" = 1.47

Time	Minutes Elapsed	Rate (gpm) (mL/min)	DTW BTOC (ft) ~~BTOC~~	Gallons Purged	pH	Specific Conductance (mS/cm)	Temp. (C) (F)	Turbidity (NTU)	REMARKS (PID readings, color, odor, etc.)
7:50	60		2.07	30					
9:30	0		2.07	30	8.25	1.827	18.16	>1000	V. Turbid
9:35	5		Pump off						
9:40	~~10~~		Pump off						
9:45	~~15~~		~~7.32~~ 2.07	35	7.65	1.607	17.85	>1000	V Turbid ~~5.5~~ 5.5
9:50	10	0.5	7.08	~~40~~ 32.5	7.25	1.569	17.84	>1000	Lowered Pump ~~7.5~~ 6.5
9:55	15	0.5	7.02	40	7.01	1.556	17.75	>1000	
10:00	20	0.5	7.10	42.5	6.94	1.543	17.80	>1000	
10:05	25	0.5	7.25	45	6.87	1.468	17.81	>1000	
10:10	30	0.5	7.30	47.5	6.81	1.456	17.80	>1000	Lowered Pump ~~7.5~~
10:15	35	0.5	7.30	50	6.75	1.579	17.75	>1000	
10:20	~~30~~	0.5	7.30	52.5	6.73	1.618	17.59	>1000	
10:25	45	0.5	7.25	55	6.69	1.507	17.52	>1000	Lowered Pump ~~8.3~~
10:30	50	0.5	7.25	57	6.84	1.889	17.30	>1000	
10:35	55	0.5	7.15	60	6.65	1.728	17.37	>1000	
10:40	60	0.5	6.80	62.5	6.67	1.630	17.68	>1000	Lowered Pump 9.5
10:45	65	0.5	6.90	65	6.73	[illegible]	17.27	>1000	
10:50	70	0.5	6.90	67.5	6.50	1.760	17.30	>1000	
10:55	75	0.5	6.90	70	6.89	1.437	17.58	>1000	Lowered Pump
11:00	80	0.5	7.40	73.5	6.28	1.446	17.97	>1000	
11:05	85	0.5	7.4	75	5.96	1.196	17.29	>1000	
11:10	90	0.5	7.4	80	5.00	1.183	16.71	>1000	

Turbidity at

ARCADIS

Groundwater Sampling Form

Project No. 30027953 Well ID MW903 Page 1 of 1

Project Name/Location Nike BU 51/52 Date 9/25/20

Measuring Pt. Description TIC Screen Setting (ft-bmp) 7.63-14.63 Casing Diameter (in.) 2" Weather

Well Material ___ PVC ___ SS ___ Other

Total Depth (ft-bmp) 14.63' Static Water Level (ft-bmp) 6.93' Water Column in Well 7.7' Gallons in Well 1.3gal

Calc. Gallons Purged 3.2 Pump Intake (ft-bmp) 11.5' Purge Method: Sample Method Grab

Gallons Purged 3.2 MP Elevation — Centrifugal Submersible

Sample Time: Label 1350 Replicate/ Code No. — Disp. Bailer Other peristaltic Pump On/Off 13:05/13:4

Sampled by J. Dugue

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. ~~(µmhos)~~ (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) ~~(°F)~~	Redox (mV)	Appearance Color	Appearance Odor
1305	—	315	6.93 ~~6.95~~		6.94	3.747	81.64	2.31	18.8	-26.7	Clear	no
1310	5	@ 315	7.10	0.4	6.60	3.574	154.95	0.60	19.0	-25.1	Clear	no
1315	10	315	7.16	0.8	6.56	3.415	150.24	0.42	19.1	-14.4	Clear	no
1320	15	315	7.16	1.2	6.52	3.174	129.95	0.39	19.0	-9.5	Clear	no
1325	20	3.15	7.16	1.6	6.49	2.933	120.00	0.32	19.0	1.9	Clear	no
1330	25	315	7.16	2.0	6.45	2.601	66.26	0.33	19.0	14.5	Clear	no
1335	30	315	7.16	2.4	6.42	2.417	65.21	0.33	18.9	23.9	Clear	no
1340	35	3.15	7.16	2.8	6.41	2.408	66.11	0.38	18.9	28.4	Clear	no
1345	40	3.15	7.16	3.2	6.39	2.397	62.31	0.31	18.9	31.6	Clear	no

Constituents Sampled	Container	Number	Preservative
VOC	40mL VOA	3	HCl
SVOC	1L Amber	2	—
Metals	250mL Plastic	1	HNO_3
Diss. Metals	1L Amber	1	—
Hex Chrome	125mL Plastic	1	—

Well Information

Well Location: West

Condition of Well: Fair

Well Completion: Flush Mount / (Stick Up)

Well Locked at Arrival: (Yes) / No

Well Locked at Departure: (Yes) / No

Key Number To Well: 2342

NOTES:

Well Casing Volumes

Gallons/Foot 1" = 0.04 1.25" = 0.06 1.5" = 0.09 2" = 0.16 2.5" = 0.26 3" = 0.37 3.5" = 0.50 4" = 0.65 6" = 1.47

ARCADIS

Monitoring Well Development Log

Project/No. Nike 3451/52 Hamburg Well MW-9BR Date 9/22-24/2020

Total Depth 26.38 Casing Diameter (inches) 2"

Water Level 7.22 Well Volume (gal) 3.12 gal

Water Column _____ Total Volume Purged 8gal

Pump On 1245/1140/1210 Pump Off 1247/1141/1711

Purge Method
Centrifugal _____
Submersible X Whale pump
Other _____

Developed By KStilson

Well Casing Volumes

gallon/foot: 1-¼" = 0.06; 1-½" = 0.09; (2" = 0.16); 2-½" = 0.26; 3" = 0.37; 3-½" = 0.50; 4" = 0.65; 6" = 1.47

	Time	Minutes Elapsed	Rate (gpm) (mL/min)	DTW (ft)	Gallons Purged	pH	Specific Conductance (mS/cm)	Temp. (C) (F)	Turbidity (NTU)	REMARKS (PID readings, color, odor, etc.)
1/22/2020	1245	2	~~7.22~~	7.22	3.0	8.84	2.649	20.50	>1000	
9/23/2020	1140	1	~~8.32~~	8.32	2.5	8.97	2.896	20.11	>1000	
1/24	1710	1	2	9.24	2.5	7.49	3.669	13.6	>1000	

ARCADIS

Groundwater Sampling Form

Project No. 30027953 | Well ID MW-98R | Date 9/25/2020

Project Name/Location Nike Bu 51/52 Hamburg NY | Weather 75° Sunny

Measuring Pt. Description TK | Screen Setting (ft-bmp) | Casing Diameter (in.) 2" | Well Material ✓ PVC, SS, Other

Total Depth (ft-bmp) 26.25' | Static Water Level (ft-bmp) 7.28' | Water Column in Well 18.97' | Gallons in Well 3.09 gal

Calc. Gallons Purged 2.8 gal | Pump Intake (ft-bmp) ~24' | Purge Method: | Sample Method Geo Pump

Gallons Purged 2.8 gal | MP Elevation – | Centrifugal | Submersible | Disp. Bailer | Other Peri Pump | Pump On/Off 1435 / 1538

Sample Time: Label 1535 | Replicate/ Code No. – | Sampled by K Stilson

0.1 | 3% | 10% | 10% | 3% | 10mV ✓

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (umhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (°C) (°F)	Redox (mV)	Appearance: Color	Appearance: Odor
1440	5	350	11.15	0.5	7.72	5.259	29.50	1.20	12.7	-47.1	Slightly Cloudy	none
1445	10	250	12.48	1.0	7.53	5.240	21.45	1.04	12.60	-79.7	"	"
1450	15	250	14.02	1.3	7.46	5.298	23.45	0.91	18.3	-94.2	"	"
1455	20	250	15.24	1.6	7.39	5.308	15.96	0.97	18.3	-93.6	"	"
1500	25	250	16.78	1.9	7.34	5.324	17.19	0.99	18.2	-91.9	"	"
1505	30	250	18.95	2.2	7.32	5.331	12.43	1.42	12.9	-90.2	"	"
1510	35	150	19.73	2.4	7.21	5.383	12.57	1.25	18.9	-81.2	"	"
1515	40	150	20.20	2.6	7.11	5.413	17.77	1.22	19.3	-78.9	"	"
1530	45	150	22.19	2.8	7.13	5.389	17.99	1.29	19.1	-86.2	"	"

Constituents Sampled	Container	Number	Preservative
VOC	VOA	3	HCl
SVOC	1L Amber	2	NA
Hex Chrome	Plastic 125	1	NA
Metals	250 Plastic	1	HNO_3
Diss Metals	1 Amber L	1	NA

Well Information

Well Location: North west boundary of property | Well Locked at Arrival: (Yes) / No

Condition of Well: (Good) | Well Locked at Departure: (Yes) / No

Well Completion: Flush Mount / (Stick Up) | Key Number To Well: 2342

NOTES: @ 1441 changed rate to 250 ml/min to stabilize DTW.
@ 1510 changed rate to 150 ml/min to stabilize DTW.

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

3.94 × .75

ARCADIS

Monitoring Well Development Log

Project/No. Nike Bu 51/52 Well MW10 Page 1 of 1

Total Depth 16.92 / 19.85 Casing Diameter (inches) 2" Date 9-10-20

Water Level 7.73 / 11.15 Well Volume (gal) 1.47 Purge Method

Water Column 9.19 Total Volume Purged 26.4 gal Centrifugal ____

Pump On 1:45 Pump Off 3:00 Submersible ____

Other waterra

Developed By AS

Well Casing Volumes

gallon/foot: 1-¼" = 0.06; 1-½" = 0.09; 2" = 0.16; 2-½" = 0.26; 3" = 0.37; 3-½" = 0.50; 4" = 0.65; 6" = 1.47

Time	Minutes Elapsed	Rate (gpm) (mL/min)	DTW (ft) 7.72	Gallons Purged	pH	Specific Conductance (mS/cm)	Temp. (C) (F)	Turbidity (NTU)	REMARKS (PID readings, color, odor, etc.)
1:45	0	–	[illegible]	0	–	–	–	–	–
1:50	5	0.3	9.24	0.9	7.07	1.084	19.48	<1000	
1:55	10	0.3		1.8				<1000	
2:00	15	0.3	9.19	2.7	6.16	1.114	17.82	<1000	
2:05	20	0.3	9.72	3.6				<1000	
2:10	25	0.3	10.43	4.5	6.31	1.142	16.48	<1000	
2:15	30	0.3	10.30	5.4				<1000	
2:20	35	0.3	11.43	6.3	6.16	1.140	16.35	<1000	
2:25	40	0.3	12.13	7.2				<1000	
2:30	45	0.3	12.68	8.1	6.13	1.150	15.30	<1000	
2:35	50	0.3	12.84	9.0				<1000	
2:40	55	0.3	13.11	9.9	6.19	1.142	15.55	<1000	
2:45	60	0.3	13.37	12.4				<1000	
2:50	65	0.5	13.57	14.9	6.13	1.151	15.36	<1000	
2:55	70	0.5	12.53	17.4				<1000	
3:00	75	0.5	12.38	19.9	6.16	1.140	15.05	<1000	
3:15	90	0.5	12.89	26.4	6.13	1.158	14.94	<1000	

Total Purge 26.4 gal

Total well Depth 16.85

ARCADIS

Groundwater Sampling Form

Project No. 30027953 | Well ID MW-10 | Date 9/24/2020

Project Name/Location Nike BL 51/52 Hamburg NY | Weather 70 Sunny

Measuring Pt. Description TIC | Screen Setting (ft-bmp) - | Casing Diameter (in.) 2" | Well Material X PVC / SS / Other

Total Depth (ft-bmp) 16.80' | Static Water Level (ft-bmp) 8.10' | Water Column in Well 8.71' | Gallons in Well 1.41 gal

Calc. Gallons Purged 4.5 gal | Pump Intake (ft-bmp) ~14.8 | Purge Method: Centrifugal / Submersible / Disp. Bailer / Other peristaltic pump | Sample Method Geo Pump

Gallons Purged 4.5 gal | MP Elevation - | Pump On/Off 1550 / 16:35

Sample Time: Label 1640 | Replicate/ Code No. - | Sampled by K Stilson

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (umhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
1555	5	350	8.72	0.5	6.94	1.233	73.18	0.27	16.8	24.7	cloudy	none
1600	10	350	8.81	1.0	6.78	1.228	55.23	0.20	16.6	-29.4	cloudy	none
1605	15	350	8.86	1.5	6.76	1.222	72.50	0.15	16.3	-35.1	"	"
1610	20	350	8.89	2.0	6.76	1.222	94.13	0.15	16.0	-36.9	"	"
1615	25	350	8.98	2.5	6.75	1.220	52.65	0.14	15.8	-39.5	"	"
1620	30	350	9.03	3.0	6.74	1.218	59.58	0.13	16.0	-39.1	"	"
1625	35	350	9.04	3.5	6.73	1.219	58.28	0.10	15.9	-42.0	"	"
1630	40	350	9.04	4.0	6.73	1.216	60.87	0.10	16.1	-42.3	"	"
1635	45	350	9.04	4.5	6.73	1.215	59.37	0.10	16.1	-42.9	"	"

Constituents Sampled	Container	Number	Preservative
VOC	VOA	3	HCl
SVOC	1 Liter Amber	2	NA
Hex Chrome	plastic 125	1	NA
Metals	250 plastic	1	HNO_3
Diss Metals	125 plastic	2	NA

Well Information

Well Location: Back field North Acid feeding | Well Locked at Arrival: (Yes) / No

Condition of Well: Good | Well Locked at Departure: (Yes) / No

Well Completion: Flush Mount / (Stick Up) | Key Number To Well: 2342

NOTES: NHFLA-MW10-SEP2020 @ 1640

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

ARCADIS

Monitoring Well Development Log

Project/No. Nike Bu 17/52 Well MW11 Page 1 of 1

Bgs 13.97 Total Depth 16.90 Casing Diameter (inches) 2" Date 9/22/26

Bgs 6.84 Water Level 9.76' Well Volume (gal) 1.16 Purge Method

Water Column 7.14 Total Volume Purged 20 gallons Centrifugal ___

Pump On 1048 Pump Off 1209 Submersible ___

Other Waterra

Developed By J. Duquette

Well Casing Volumes

gallon/foot: 1-¼" = 0.06; 1-½" = 0.09; 2" = 0.16; 2-½" = 0.26; 3" = 0.37; 3-½" = 0.50; 4" = 0.65; 6" = 1.47

Time	Minutes Elapsed	Rate (gpm) ~~(mL/min)~~	DTW (ft)	Gallons Purged	pH	Specific Conductance (mS/cm)	Temp. (C) ~~(F)~~	Turbidity (NTU)	REMARKS (PID readings, color, odor, etc.)
1058	10	~~0.5~~ 0.8	11.52	8	6.57	1.753	17.2	>1000	Brown, yes
1108	20	0.6	11.86	14.0	5.98	1.753	18.3	>1000	Brown yes
1119	30	0.3	11.53	8.5	6.12	1.844	19.1	>1000	Brown yes
1129	40	0.2	11.53	10	6.06	1.817	18.1	>1000	Brown yes
1139	50	0.3	11.56	12.5	6.05	1.711	18.7	>1000	Brown, Yes
1149	60	0.2	11.81	14	6.04	1.736	18.8	>1000	Brown yes
1209	80	0.3	11.99	20	6.00	1.831	19.0	>1000	Brown yes

Due to WL lowering, I had to change the depth of the Surge block 1' to keep moving water

ARCADIS

Groundwater Sampling Form

Project No. 30027953 | Well ID MW-11 | Date 9/25/2020

Project Name/Location Nike Bu 51/52 Hamburg NY | Weather 75 Sunny

Measuring Pt. Description TIC | Screen Setting (ft-bmp) | Casing Diameter (in.) 2" | Well Material ✓ PVC ___ SS ___ Other

Total Depth (ft-bmp) 16.91 | Static Water Level (ft-bmp) 10.04 | Water Column in Well 6.87' | Gallons in Well 1.11 gal

Calc. Gallons Purged 375 | Pump Intake (ft-bmp) ~13' | Purge Method: Centrifugal Submersible ___ Disp. Bailer ___ Other Peristaltic pump | Sample Method pump

Gallons Purged 375 | MP Elevation | Pump On/Off 16:15 / 17:15

Sample Time: Label 17.20 | Replicate/ Code No. | Sampled by KC

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (µmhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
1615	0	350	10.41	0.35	6.13	1.604	454	6.63	17.3	37.3	brown	none
1620	5	325	10.46	0.30	5.90	1.713	397	0.45	17.5	35.5	brown	"
1625	10	300	10.50	0.25	5.86	1.745	384	0.36	18.2	42.3	brown	"
1630	15	300	10.54	0.25	5.84	1.745	323	0.29	17.9	42.8	murky	"
1635	20	300	10.59	0.25	5.82	1.754	285	0.23	18.0	41.2	murky	"
1640	25	300	10.63	0.25	5.81	1.769	263	0.22	17.8	40.6	murky	"
1645	30	300	10.66	0.25	5.79	1.756	215	0.19	17.6	40.1	murky	"
1650	35	300	10.69	0.25	5.79	1.749	175	0.23	17.7	47.0	murky	"
1655	40	300	10.72	0.25	5.77	1.753	135	0.22	17.2	46.1	murky	"
1700	45	300	10.74	0.25	5.76	1.771	104	0.18	17.0	43.9	clear	"
1705	50	300	10.75	0.25	5.77	1.768	85	0.17	17.1	43.1	clear	"
1710	55	300	10.76	0.25	5.77	1.766	80	0.19	16.9	41.8	clear	"
1715	60	300	10.78	0.25	5.77	1.761	76	0.17	16.9	40.4	clear	"

Constituents Sampled	Container	Number	Preservative
VOC	VOA	3	HCl
SVOC	1L Amber	2	NA
Hex Chrome	Plastic 250mL	1	NA
Metals	250 Plastic	1	HNO3
Diss Metals	plastic 250 ml	1	NA
		(2)	

Well Information

Well Location: corner of shed | Well Locked at Arrival: (Yes) / No

Condition of Well: new | Well Locked at Departure: (Yes) / No

Well Completion: Flush Mount / (Stick Up) | Key Number To Well:

NOTES: PURGED 1/4 GALLON PRIOR TO MEASUREMENTS DUE TO HIGH TURBIDITY

Well Casing Volumes

Gallons/Foot: 1" = 0.04 | 1.25" = 0.06 | 1.5" = 0.09 | 2" = 0.16 | 2.5" = 0.26 | 3" = 0.37 | 3.5" = 0.50 | 4" = 0.65 | 6" = 1.47

ARCADIS

Monitoring Well Development Log

Page 1 of 1

Project/No. Nuke Bu 51/52 Well MW-12 Date 9/22/2020

Total Depth 13.46 Casing Diameter (inches) 2"

Water Level 9.78 Well Volume (gal) 0.5 gal

Water Column 3.68 Total Volume Purged 30 gal

Pump On 1005 Pump Off ~~1119~~ 1105

Purge Method: Centrifugal ____ Submersible ____ Other Watera

Developed By KStilson

Well Casing Volumes

gallon/foot				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

	Time	Minutes Elapsed	Rate (gpm) (mL/min)	DTW (ft)	Gallons Purged	pH	Specific Conductance (mS/cm)	Temp. (C) (F)	Turbidity (NTU)	REMARKS (PID readings, color, odor, etc.)
9-10	1015	10	0.5	9.94	5	6.75	0.783	19.86	>1000	no odor, muddy
10-11	1025	10	0.5	10.20	5	6.82	0.812	20.76	>1000	"
11-12	1035	10	0.5	10.95	5	6.87	0.863	17.95	>1000	"
12-13	1045	10	0.5	12.10	5	6.80	0.990	17.91	>1000	"
13-bdtm	1105	20	0.5	12.18	10	6.70	1.239	17.73	>1000	"

ARCADIS

Groundwater Sampling Form

Project No.

Project Name/Location: Nike BO 51/52 Hamburg NY

Well ID: MW12

Date: 9/24/20

Weather: 70° Cloud

Well Material: ✓ PVC ___ SS ___ Other

Measuring Pt. Description: TIC

Screen Setting (ft-bmp): 6.51 - 13.51

Casing Diameter (in.): 2"

Total Depth (ft-bmp): 13.51'

Calc. Gallons Purged: 5.0

Gallons Purged: 5.0

Sample Time: Label: 1415

Static Water Level (ft-bmp): 9.84'

Pump Intake (ft-bmp): 11'

MP Elevation: —

Replicate/ Code No.: —

Water Column in Well: 3.67'

Purge Method: Centrifugal ___ Submersible ___ Disp. Bailer ___ Other Peristaltic

Gallons in Well: 0.6gal

Sample Method: Grab

Pump On/Off: 1325/1410

Sampled by: J Duquette

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C)	Redox (mV)	Appearance Color	Appearance Odor
1327	-	470	10.13	-	7.39	1.133	466.08	3.77	19.6	83.7	Brown	Slight
1332	5	470	10.45	0.63	6.79	1.067	400.01	1.57	20.1	102.4	Brown	Slight
1337	10	470	10.64	1.25	6.58	1.085	204.61	0.97	19.8	67.0	Cloudy	Slight
1342	15	470	10.71	1.88	6.50	1.125	198.77	6.70	19.8	48.6	Cloudy	Slight
1347	20	470	10.72	2.51	6.45	1.144	145.83	0.54	19.5	36.6	Cloudy	Slight
1352	25	470	10.72	3.14	6.41	1.122	210.11	0.38	19.4	30.0	Cloudy	Slight
1357	30	470	10.72	3.75	6.32	1.211	470.09	0.26	19.5	21.8	"	"
1402	35	470	10.72	4.4	6.29	1.242	388.17	0.29	19.5	15.7	"	"
1407	40	470	10.72	5.0	6.27	1.231	276.44	0.33	19.7	13.3	"	"

Constituents Sampled	Container	Number	Preservative
VOC	40mL VOA	3	HCl
SVOC	1L Amber	3	—
Metals	250mL Plastic	1	HNO_3
Diss. Metal	125mL Plastic	2	—
Hex Chrome	125mL Plastic	1	—

Well Information

Well Location: North West Side

Condition of Well: Fair

Well Completion: Flush Mount / (Stick Up)

Well Locked at Arrival: (Yes) / No

Well Locked at Departure: (Yes) / No

Key Number To Well: 2342

NOTES:

Well Casing Volumes

Gallons/Foot: 1" = 0.04; 1.25" = 0.06; 1.5" = 0.09; 2" = 0.16; 2.5" = 0.26; 3" = 0.37; 3.5" = 0.50; 4" = 0.65; 6" = 1.47

ARCADIS

Monitoring Well Development Log

Page 1 of 1

Project/No. Nile Bn 5/15 Well MW13 Date 9-10-20

Purge Method: Centrifugal ____ Submersible ____ Other ____

Developed By AG

	Toc / BGS	Casing Diameter (inches)	2"
Total Depth	13.25 / 10.35		
Water Level	6.77 / 3.56	Well Volume (gal)	1.13
Water Column	6.98	Total Volume Purged	45 gal
Pump On	8:15	Pump Off	16:00

Well Casing Volumes

gallon/foot: 1-¼" = 0.06; 1-½" = 0.09; 2" = 0.16; 2-½" = 0.26; 3" = 0.37; 3-½" = 0.50; 4" = 0.65; 6" = 1.47

Time	Minutes Elapsed	Rate (gpm) (mL/min)	DTW (ft)	Gallons Purged	pH	Specific Conductance (mS/cm)	Temp. (C) (F)	Turbidity (NTU)	REMARKS (PID readings, color, odor, etc.)
8:15	0	~~0.33~~	6.77	0	7.96	~~2.36~~	19.96	>1000	V. Turbid
8:20	5	0.25		1.25	7.61				Lowered Pump
8:25	10	0.25	7.4	2.5	7.61	2164	19.09	>1000	Lower Pump
8:30	15	0.25	7.15	3.75	7.53	2.167	18.99	>1000	
8:35	20	0.25	7.35	5.00	7.45	2.217	18.75	>1000	
8:40	25	0.33	7.75	6.70	7.43	2.254	18.37	>1000	
8:45	30	0.33						>1000	
8:50	35	0.33						>1000	
8:55	40	0.33	8.10	11.70	7.35	2.264	18.35	>1000	
9:00	45	0.33						>1000	
9:05	50	0.33	8.35	14.50				>1000	
9:10	55	0.33	8.30	~~16.20~~	7.35	2.123	17.27	>1000	
9:15	60	0.33	~~8.50~~	17.90					
9:20	65	0.33	~~8.15~~	19.60	7.17	2.239	17.67	>1000	
9:25	70	0.33	8.75	20.30	7.05	2.255	17.69	>1000	
9:30	75	0.33	8.80	22.00	7.15	2.167	16.67	>1000	
9:35	80	0.33	8.85	23.70	6.96	2.277	17.59	>1000	
9:40	85	0.33	8.90	25.4	6.95	2.269	17.77	>1000	
		1.00							
10.00	105	1.00	7.45	45.5	6.91	2.292	17.66	>1000	

Start at 6' Bottom of water 5 Lower Pump 4 Lower 3 2 1 0

Final Total Depths: 13.95 TOC

BGS : 10.52

ARCADIS

Groundwater Sampling Form

Project No. 30027953 | Well ID MW13 | Date 9/24/26

Project Name/Location Nike BO 51/52 Hamburg NY | Weather 70°F Sun

Measuring Pt. Description TIC | Screen Setting (ft-bmp) 6.94-13.94 | Casing Diameter (in.) 2" | Well Material ✓ PVC / SS / Other

Total Depth (ft-bmp) 13.94 | Static Water Level (ft-bmp) 7.83 | Water Column in Well 6.11 | Gallons in Well 1.0

Calc. Gallons Purged 3.0 | Pump Intake (ft-bmp) 10' | Purge Method: Centrifugal / Submersible / Disp. Bailer / Other Peristaltic | Sample Method Grab

Gallons Purged 3.0 | MP Elevation —

Sample Time: Label 1530 | Replicate/ Code No. — | Pump On/Off 1452/1525

Sampled by J. Duquette

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. ~~(µmhos)~~ (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) ~~(°F)~~	Redox (mV)	Appearance Color	Appearance Odor
1455	-	470	8.01	-	7.33	3.539	20.02	1.70	18.2	-150.0	Clear	no
1500	5	470	8.03	0.63	7.15	3.482	22.31	0.44	17.8	-132.7	Clear	no
1505	10	470	8.03	1.25	7.12	3.485	20.01	0.34	17.7	-130.9	Clear	no
1510	15	470	8.03	1.75	7.09	3.471	20.00	0.23	17.8	-128.6	Clear	no
1515	20	470	8.03	2.2	7.11	3.467	19.98	0.17	17.7	-127.7	Clear	no
1520	25	470	8.03	2.5	7.10	3.465	13.31	0.14	17.7	-126.7	Clear	no
1525	30	470	8.08	3.0	7.06	3.462	11.52	0.11	17.6	-125.4	Clear	no

Constituents Sampled	Container	Number	Preservative
VOC	40mL VOA	3	HCl
SVOC	1L Amber	2	—
Metal	250mL Plastic	1	HNO3
Diss. Metal	125mL Plastic	2	—
Hex Chrome	125mL Plastic	1	—

Well Information

Well Location: West Side

Condition of Well: Fair

Well Completion: Flush Mount / (Stick Up)

Well Locked at Arrival: (Yes) / No

Well Locked at Departure: (Yes) / No

Key Number To Well: 2342

NOTES:

Well Casing Volumes

Gallons/Foot: 1" = 0.04 | 1.25" = 0.06 | 1.5" = 0.09 | 2" = 0.16 | 2.5" = 0.26 | 3" = 0.37 | 3.5" = 0.50 | 4" = 0.65 | 6" = 1.47

ARCADIS

Monitoring Well Development Log

Page 1 of ___

Project/No. Nila Bu 51/52 Well MW14 Date 9/23/20

bgs: 11.14
sg: 337

Total Depth 13.86' Casing Diameter (inches) 2" Purge Method

Water Level 6.08' Well Volume (gal) 1.27 gal Centrifugal ___

Water Column 7.78' Total Volume Purged 33 gal Submersible ___

Pump On 1140 Pump Off 13:20 Other Waterra

Developed By J. Bryant

Well Casing Volumes

gallon/foot				
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

Time	Minutes Elapsed	Rate (gpm)	DTW (ft)	Gallons Purged	pH	Specific Conductance (mS/cm)	Temp. (C) (F)	Turbidity (NTU)	REMARKS (PID readings, color, odor, etc.)
1150	10	0.1	6.58	1	6.89	3.000	22.1	>1000	Black, Yes
1200	20	0.15	6.71	3	6.80	3.084	19.9	>1000	Black, Yes
1210	30	0.17	6.71	5.5	6.74	3.076	16.4	>1000	"
1220	40	0.5	6.71	10.5	6.92	3.519	19.2	>1000	"
1230	50	0.5	6.71	16	6.98	3.642	19.1	>1000	"
1240	60	0.5	6.71	21	6.28	3.741	18.4	>1000	"
1300	80	0.5	6.71	33	6.24	3.977	17.0	>1000	"

ARCADIS

Groundwater Sampling Form

Page ✓ of ✓

Project No. 30027953 Well ID MW14 Date 9/24/20

Project Name/Location Nike BU 51/52 Hamburg NY Weather 70°F Sun

Measuring Pt. Description TIC Screen Setting (ft-bmp) 6.49 - 13.49 Casing Diameter (in.) 2" Well Material ✓ PVC ___ SS ___ Other

Total Depth (ft-bmp) 13.49' Static Water Level (ft-bmp) 6.13' Water Column in Well 7.36' Gallons in Well 1.2

Calc. Gallons Purged ___ Pump Intake (ft-bmp) 9.75 Purge Method: Centrifugal ___ Submersible ___ Disp. Bailer ___ Other Peristaltic Sample Method Grab

Gallons Purged ___ MP Elevation — Pump On/Off 1552/16[illegible]

Sample Time: Label 1635 Replicate/ Code No. NHFLA-DUP-SEP2020 @ 1400 Sampled by J. Duque

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. ~~(µmhos)~~ (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) ~~(°F)~~	Redox (mV)	Appearance Color	Appearance Odor
1555	-	400	6.35	0.5	6.36	3.478	52.68	3.66	17.7	44.2	Cloudy	no
1600	5	400	6.37	1	6.16	3.513	72.00	1.39	17.5	34.5	Cloudy	no
1605	10	400	6.37	1.25	6.21	3.592	68.32	0.88	17.3	26.7	Cloudy	no
1610	15	400	6.37	1.75	6.17	3.671	44.0	0.63	16.9	24.1	"	"
1615	20	400	6.37	2.25	6.16	3.735	54.12	0.51	17.1	21.2	"	"
1620	25	400	6.37	2.75	6.17	3.826	39.14	0.37	17.3	16.7	"	"
1625	30	400	6.37	3.25	6.17	3.876	29.80	0.35	17.2	14.3	"	"
1630	35	400	6.37	3.75	6.17	3.889	22.21	0.27	17.2	12.8	"	"

Constituents Sampled	Container	Number	Preservative
VOC	40mL Voa	3	HCl
SVOC	1L Amber	2	—
Metals	250 mL Plastic	1	HNO_3
Diss. Metals	125 mL Plastic	2	—
Hex Chrome	125 mL Plastic	1	—

Well Information

Well Location: Middle Well Locked at Arrival: (Yes) / No

Condition of Well: Fair Well Locked at Departure: (Yes) / No

Well Completion: Flush Mount / (Stick Up) Key Number To Well: 2342

NOTES: Duplicate Sample taken

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

ARCADIS

Monitoring Well Development Log

Page 1 of 1

Project/No. Nike BU 51/52 Well MW-15 Date 9/22/2020

DTW(bgs) 4.27

Total Depth 13.00 Casing Diameter (inches) 2"

Water Level 6.91 Well Volume (gal) 0.99 gal

Water Column 6.09 Total Volume Purged 35 gal

Pump On 1505 1505 Pump Off 1615

Purge Method: Centrifugal ____ Submersible ____ Other Waterra

Developed By K Stinson

Well Casing Volumes

gallon/foot			
1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
1-½" = 0.09	2-½" = 0.26	3-½" = 0.60	6" = 1.47

Time	Minutes Elapsed	Rate (gpm) (mL/min)	DTW (ft)	Gallons Purged	pH	Specific Conductance (mS/cm)	Temp (C) (F)	Turbidity (NTU)	REMARKS (PID readings, color, odor, etc.)
7-8 1515	10	0.5	7.20	5.0	7.32	0.872	20.85	>1000	Muddy no odor
8-9 1525	10	0.5	7.55	5.0	7.30	0.818	19.42	1000	"
9-10 1535	10	0.5	7.68	5.0	7.26	0.778	19.36	>1000	"
10-11 1545	10	0.5	7.90	5.0	7.32	0.743	19.15	>1000	"
11-12 1555	10	0.5	7.85	5.0	7.30	0.737	19.11	>1000	"
12-Stop 1615	20	0.5	7.85	10.0	7.30	0.732	18.90	>1000	"

3.0
0.36
2.64

ARCADIS

Groundwater Sampling Form

Page 1 of ____

Project No. 30027953 Well ID MW15 Date 9/25/20

Project Name/Location Nike BU 51/52 Weather 64°F Sun

Measuring Pt. Description TIC Screen Setting (ft-bmp) 4.82-13.82 Casing Diameter (in.) 2" Well Material ✓PVC ___SS ___Other

Total Depth (ft-bmp) 13.82' Static Water Level (ft-bmp) 7.07' Water Column in Well 6.75' Gallons in Well 1.1

Calc. Gallons Purged 2.7 Pump Intake (ft-bmp) 10' Purge Method: Sample Method Grab

Gallons Purged 2.7 MP Elevation — Centrifugal Submersible ___

Disp. Bailer Other ~~Disp. Bailer~~ Pump On/Off 11:44/12:17

Sample Time: Label 1306 Replicate/ Code No. — Sampled by J. Duguay

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. ~~(umhos)~~ (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) ~~(F)~~	Redox (mV)	Appearance	
											Color	Odor
1144	—	~~340~~	7.10	—	7.02	0.735	469.88	2.84	18.41	168.9	Brown	
1149	5	340	7.10	0.45	7.26	0.707	105.61	0.77	18.9	153.1	Brown	
1154	10	340	7.10	0.9	7.31	0.706	27.1	0.64	19.0	140.3	Brown	
1159	15	340	7.10	1.35	7.26	0.705	4.02	0.38	18.8	130.6	Clear	
1204	20	340	7.10	1.8	7.35	0.697	3.49	0.28	18.9	122	Clear	
1209	25	340	7.10	2.25	7.37	0.694	4.57	0.26	18.9	119.8	Clear	
1214	30	340	7.10	2.7	7.36	0.692	3.36	0.31	18.9	115.8	Clear	

Constituents Sampled	Container	Number	Preservative
VOC			
SVOC			
Metals			
Diss. Metals			
Hex Chrome			

Well Information

Well Location: West Well Locked at Arrival: Yes / No

Condition of Well: Fair Well Locked at Departure: Yes / No

Well Completion: Flush Mount / Stick Up Key Number To Well: 2342

NOTES:

Well Casing Volumes

Gallons/Foot 1" = 0.04 1.25" = 0.06 1.5" = 0.09 2" = 0.16 2.5" = 0.26 3" = 0.37 3.5" = 0.50 4" = 0.65 6" = 1.47

ARCADIS

Monitoring Well Development Log

Project/No. Nike Bm 51/52 Well MW-16 Date 9/22/20

bgs: 21.00
bgs: 14.84

Total Depth	23.52'	Casing Diameter (inches)	2"	Purge Method Centrifugal	
Water Level	17.36'	Well Volume (gal)	1.0	Submersible	
Water Column	6.16'	Total Volume Purged	7.5	Other	Waterra
Pump On	1400	Pump Off	1120	Developed By	J. Duquette

Well Casing Volumes

gallon/foot							
	1-¼" = 0.06		2" = 0.16		3" = 0.37		4" = 0.65
	1-½" = 0.09		2-½" = 0.26		3-½" = 0.50		6" = 1.47

Time	Minutes Elapsed	Rate (gpm) (mL/min)	DTW (ft)	Gallons Purged	pH	Specific Conductance (mS/cm)	Temp. (C) (F)	Turbidity (NTU)	REMARKS (PID readings, color, odor, etc.)
1410	10	0.2	19.46	2	6.44	0.667	17.0	843	Gray, no
1420	20	0.25	20.78	3.5	6.88	4.855	16.3	>1000	Gray no
1430	30	0.15	22.5	3.5	6.91	4.962	17.1	>1000	Gray, no
1439	39		Dry	4					
0922	–	~~0.5~~ 0.10	17.58	1/5	6.19	3.876	14.6	~~6545~~	Gray, no
0926	4	1.0	22.11	2/6	6.45	4.387	14.1	>1000	Gray, no
0938			Dry						
1100			18.42	1.5/7.5	6.58	4.664	18.8	371	Gray, Brown, no
1120			Dry						

9/22

due to low WL, only able to Surge Top part of the screen for 2 minutes before going down

ARCADIS

Groundwater Sampling Form

Page ___ of ___

Project No. 30027953 | Well ID MW16 | Date 9/24/20

Project Name/Location Nike BU 51/52 Hamburg NY | Weather 69°F Cloud

Measuring Pt. Description TIC | Screen Setting (ft-bmp) 16.61 - 23.61 | Casing Diameter (in.) 2"

Well Material ✓PVC ___SS ___Other

Total Depth (ft-bmp) 23.61' | Static Water Level (ft-bmp) 17.84' | Water Column in Well 5.77' | Gallons in Well 0.9

Calc. Gallons Purged 30 | Pump Intake (ft-bmp) 20' | Purge Method: | Sample Method Grab

Gallons Purged 25 | MP Elevation — | Centrifugal Submersible ___

Sample Time: Label 1300 | Replicate/ Code No. — | Disp. Bailer ___ Other Peristatic | Pump On/Off 1208/1305

Sampled by J. Dyer H

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. ~~(umhos)~~ (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) ~~(°F)~~	Redox (mV)	Appearance	
											Color	Odor
1210	—	300	18.54	—	6.37	4.650	161.5	0.44	15.5	-86.1	Clear	Yes
1215	5	300	18.61	0.58	6.39	4.713	121.6	0.48	15.8	-110.3	Clear	Yes
1220	10	300	19.06	1.06	6.38	4.795	58.12	0.21	15.1	-98.4	Clear	Yes
1225	15	300	19.38	1.25	6.37	4.768	26.62	0.18	15.1	-98.9	Clear	Yes
1230	20	300	19.63	1.88	6.37	4.757	13.69	0.13	15.1	-99.4	Clear	Yes
1235	25	300	19.99	2.1	6.35	4.746	30.11	0.11	14.7	-95.3	Clear	Yes
1240	30	300	20.11	25	6.36	4.748	21.82	0.16	14.8	-94.7	Clear	Yes

Constituents Sampled	Container	Number	Preservative
VOC	40mL VOA	3	HCl
SVOC	1L Amber	2	—
Metals	250mL Plastic	1	HNO_3
Diss. Metals	125mL Plastic	2	—
Hex. Chrome	125mL Plastic	1	—

Well Information

Well Location: North Side | Well Locked at Arrival: (Yes) / No

Condition of Well: Fair | Well Locked at Departure: (Yes) / No

Well Completion: Flush Mount / (Stick Up) | Key Number To Well: 2342

NOTES:

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

ARCADIS

Instrument Calibration Log

Project Name: Nike Bldg 52

Project Number: 30027953

Date: 9-9-2020

Calibrating Personnel: A. Wall / JB

Time of Calibration: 7:20

Weather Conditions:

Barometric Pressure: _____ mm Hg

CALIBRANT	INSTRUMENT	INITIAL READING	VALUE ENTERED	FINAL READING	TIME	TEMP
pH 7.00	451	7.19	7.00	7.02	7:20	19.2C
pH 4.01		4.09	4.00	4.01		
Conductivity (mS/cm)		1.502	1.413	1.419		
Turbidity (1.0 NTU)		2.5	0.0	0.0		
Turbidity (10.0 NTU)		129	129	114		
DO (mg/L)						
DO%		106	100	100		
ORP (mV)		245	240	240		
pH 10		10.48	10.0	10.0		

Notes:

ARCADIS

Instrument Calibration Log

Project Name: Nike BO 51/52

Project Number: 30027953

Calibrating Personnel: A. Wall / JB

Time of Calibration: 7:30

Weather Conditions:

Barometric Pressure: _____ mm Hg

Date: 9-30-2020

CALIBRANT	INSTRUMENT	INITIAL READING	VALUE ENTERED	FINAL READING	TIME	TEMP
pH 7.00	YSI	7.05	7.00	7.00	1:30	18.2C
pH 4.01		4.04	4.00	4.01		
Conductivity (mS-cm)		1.421	1.413	1.419		
Turbidity (1.0 NTU)		1.8	1.0	1.0		
Turbidity (124 NTU)		126	124	124		
DO (mg/L)						
DO%		103	100	1.00		
ORP (mV)		121	120	120		
pH 10		10.4	10.0	10.0		

Notes:

ARCADIS

Instrument Calibration Log

Project Name: Nike Bu 51/57

Project Number: 30027953

Calibrating Personnel: K Olubiwe

Time of Calibration: 14:30

Weather Conditions: 75 Sunny

Barometric Pressure: _____ mm Hg

Date: 9/17/2020

CALIBRANT	INSTRUMENT	INITIAL READING	VALUE ENTERED	FINAL READING	TIME	TEMP
pH 7.00	451	7.07	7.00	7.00	14:30	18.5
pH 4.01		4.03	4.00	4.01		
Conductivity (mS/cm)		1.425	1.413	1.413		
Turbidity (1.0 NTU)		1.07	1.0	1.0		
Turbidity (~~10.0~~ NTU)		125.1	124	124		
DO (mg/L) 124						
DO%		101	100	100		
ORP (mV)		237	240	240		
pH 10		10.06	10.0	10.		

Notes:

.xls
Inst Calibration

ARCADIS

Instrument Calibration Log

Project Name: Nike

Project Number: 30077953

Calibrating Personnel: Kohlson

Time of Calibration: 0730

Weather Conditions:

Barometric Pressure: 731 mm Hg

Date: 9/21/2020

CALIBRANT	INSTRUMENT	INITIAL READING	VALUE ENTERED	FINAL READING	TIME	TEMP
pH 7.00	YSI	7.10	7.00	7.01	0730	18.01 °C
pH 4.01		4.04	4.00	4.00		
Conductivity (µS/cm)		1.437	1.413	1.413		
Turbidity (1.0 NTU)						
Turbidity (10.0 NTU)						
DO (mg/L)		104.9	100.0	100.9		
DO%						
ORP (mV)		238.5	240	240.0		

Notes: pH 10 10.48 1000 10.0

ARCADIS

Instrument Calibration Log

Project Name: Nike

Project Number: 30027953

Calibrating Personnel: J. Duquette

Time of Calibration: 1330

Weather Conditions: 63°F Sunny

Barometric Pressure: _____ mm Hg

Date: 9/21/20

CALIBRANT	INSTRUMENT	INITIAL READING	VALUE ENTERED	FINAL READING	TIME	TEMP
pH 7.00	U	6.78	7	7.0		
pH 4.01	U	4.17	4	4.0		
Conductivity (mS/cm)	A	1.409	1.413	1.413		
Turbidity (0 NTU)	A	-1.81	0	0.0		
Turbidity (~~10.0 NTU~~ 124)	A	~~10.81~~	~~124~~	~~124~~		
DO (mg/L)		—	—	—		
DO%	H	—	—	—		
ORP (mV)	U	232.4	240	240		
pH 10.00	J	9.85	10	10.0		

Notes:

ARCADIS

Instrument Calibration Log

Project Name: Nike

Project Number: 30027953

Calibrating Personnel: KSH/SDM

Time of Calibration: 1430

Weather Conditions:

Barometric Pressure: _____ mm Hg

Date: 9/22/2020

CALIBRANT	INSTRUMENT	INITIAL READING	VALUE ENTERED	FINAL READING	TIME	TEMP
pH 7.00	YSI	6.85	7.00	7.01		
pH 4.01		4.18	4.00	4.00		
Conductivity (uS/cm)		1.367	1.413	1.413		
Turbidity (1.0 NTU)		0.2	0.0	0.0		
Turbidity (10.0 NTU)		130	126	125		
DO (mg/L)						
DO%		101	100	99.6		
ORP (mV)		247.1	240	240		

Notes:

Instrument Calibration Log

ARCADIS

Project Name: Nike Bu 51/52

Project Number: 30027953

Calibrating Personnel: S. Duquette

Date: 9/22 & 9/23

Time of Calibration: 0730 / 0745

Weather Conditions: 45°F / 53°F

Barometric Pressure: 740.4 mm Hg

Instrument YSI DSS Pro 9/22/20

CALIBRANT	INITIAL READING	VALUE ENTERED	FINAL READING	TIME	TEMP
pH 7.00	6.81	7	7.0		
pH 4.01	3.94	4	4.0		
Conductivity (mS/cm)	1.478	1.413	1.413		
Turbidity (0.0 NTU)	4.37	0	0		
~~Turbidity (10.0 NTU)~~ 124	146	124	124		
DO (mg/L)	—	—	—		
DO%	—	—	—		
ORP (mV)	226	240	240		
pH 10.00	9.74	10	10.0		

Instrument YSI Pro DSS 9/23/20

CALIBRANT	INITIAL READING	VALUE ENTERED	FINAL READING	TIME	TEMP
pH 7.00	6.62	7	7.0		
pH 4.01	4.33	4	4.0		
Conductivity (mS/cm)	1.555	1.413	1.413		
Turbidity (0.0 NTU)	6.13	0	0.0		
~~Turbidity (10.0 NTU)~~ 124	133	124	124		
DO (mg/L)	—	—	—		
DO%	—	—	—		
ORP (mV)	236	240	240		
pH 10.00	10.64	10	10.0		

Notes

ARCADIS

Instrument Calibration Log

Project Name: Nike

Project Number: 30027953

Calibrating Personnel: KSH/SDM

Time of Calibration: 1000

Weather Conditions:

Barometric Pressure: 769.2 mm Hg

Date: 9/23/2020

CALIBRANT	INSTRUMENT	INITIAL READING	VALUE ENTERED	FINAL READING	TIME	TEMP
pH 7.00	YSI	6.77	7.0	7.00	1000	19.60 °C
pH 4.01		4.17	4.0	4.03		
Conductivity (mS/cm)		1.452	1.413	1.413		
Turbidity (1.0 NTU)						
Turbidity (10.0 NTU)						
DO (mg/L)						
DO%		103.0	100.0	100.6		
ORP (mV)		237.3	240.0	240.0		

Notes:

10 9.73 10.0 10.01 1000 19.62°C

ARCADIS

Instrument Calibration Log

Project Name: Nine BU 51/52

Project Number: 30027953

Calibrating Personnel: J. Duquette

Time of Calibration: 0955

Weather Conditions: 65°F Sun

Barometric Pressure: 740.0 mm Hg

Date: 9/24

CALIBRANT	INSTRUMENT	INITIAL READING	VALUE ENTERED	FINAL READING	TIME	TEMP
pH 7.00		6.11	7.0	7		
pH 4.01		4.83	4.0	4		
Conductivity (mS/cm)		4.813	4.413	4.43		
Turbidity (0.0 NTU)		11.6	0	0		
Turbidity (8.0 NTU)						
DO (mg/L)		—	—	—		
DO%		—	—	—		
ORP (mV)		228	240	240		
pH 10.00		8.96	10.0	10.0		

Notes:

Instrument Calibration Log

ARCADIS Design & Consultancy for natural and built assets

Project Name: Wilke Bu 51/52

Project Number: 30027953

Calibrating Personnel: KStilson

Time of Calibration: 0930

Weather Conditions: 70 sunny

Barometric Pressure: 765 mm Hg

Date: 9/24/2020

CALIBRANT	INSTRUMENT	INITIAL READING	VALUE ENTERED	FINAL READING	TIME	TEMP
pH 4.00	YSI	4.07	4.0	4.0	0950	29.2 °C
Conductivity (mS/cm)		1.399	1.412	1.411		
Turbidity (0.0 NTU)		0.5	0.0	0.1		
ORP (mV)		247	240	239		
DO (mg/L)						
DO%		103.7	100	101.1		
Fresh Air						
Isobutylene						
Fresh Air						

Notes:

7.01 7.0 7.00

10.09 10.0 10.01

140 126 127

ARCADIS

Instrument Calibration Log

Project Name: Nike BU 51/52

Project Number: 30027953

Calibrating Personnel: S. Duquette

Time of Calibration: 1040

Weather Conditions: 69° Sun

Barometric Pressure: 742.8 mm Hg

Date: 9/25

CALIBRANT	INSTRUMENT	INITIAL READING	VALUE ENTERED	FINAL READING	TIME	TEMP
pH 7.00		6.77	7.0	7.0		
pH 4.01		3.71	4.0	4.0		
Conductivity (mS/cm)	YSI	1.489	1.413	1.413		
Turbidity (0.0 NTU)	Hach	-756	00	0.0		
Turbidity (~~10.0~~ 124 NTU)	Hach	141.73	124	124		
DO (mg/L)	YSI	—	—	—		
DO%	YSI	—	—	—		
ORP (mV)	YSI	2539	240	240		
pH 10.00	YSI	9.98	10.0	10.00		

Notes:

ARCADIS

Instrument Calibration Log

Project Name: Nike Bucyrus

Project Number: 30027953

Calibrating Personnel: K Stilson

Time of Calibration: 1100

Weather Conditions: 70° Sunny

Barometric Pressure: _____ mm Hg

Date: 9/25/2020

CALIBRANT	INSTRUMENT	INITIAL READING	VALUE ENTERED	FINAL READING	TIME	TEMP
pH 7.00	YSI	6.99	7.0	7.00	1100	21.8
pH 4.01		4.24	4.0	4.00		
Conductivity (mS/cm)						
Turbidity (~~1.0 NTU~~) 0.0		5.09	0.0	0.0		
Turbidity (~~10.0 NTU~~) 126		123.02	126	126		
DO (mg/L)		1.387	1.413	1.413		
DO%						
ORP (mV)		244.2	240	240		

Notes: 10.21 10.0 10.03

ARCADIS

Instrument Calibration Log

Project Name: NWC Bay 51/52

Project Number: 30072953

Calibrating Personnel: K Clubine

Time of Calibration: 13:30

Weather Conditions:

Barometric Pressure: _____ mm Hg

Date: 9/29/2020

CALIBRANT	INSTRUMENT	INITIAL READING	VALUE ENTERED	FINAL READING	TIME	TEMP
pH 7.00	451	6.89	7.00	7.01	13:30	20.6 C
pH 4.01	↓	3.91	4.00	4.00	13:30	↓
Conductivity (ms/cm)		1.402	1.413	1.412	13:30	
Turbidity (1.0 NTU)		-0.96	1.0	1.0	13:30	
Turbidity (~~10.0~~ 124 NTU)		122	124	124	13:30	
DO (mg/L)						
DO%		102	100	100	13:30	
ORP (mV)		235	240	240	13:30	
pH 10		9.95	10.0	10.01	13:30	

Notes:

.xls
Inst Calibration

ARCADIS

Instrument Calibration Log

Project Name: Nike Bu 51/52

Project Number: 30027953

Calibrating Personnel: K Stilson

Time of Calibration: 1100

Weather Conditions: 70° Cloudy

Barometric Pressure: _____ mm Hg

Date: 9/29/2020

CALIBRANT	INSTRUMENT	INITIAL READING	VALUE ENTERED	FINAL READING	TIME	TEMP
pH 7.00		6.90	7.00	7.00	1100	21.3
pH 4.01		4.03	4.00	4.00		1
Conductivity (mS/cm)	451 (4500)	1.369	1.413	1.413		21.1°C
Turbidity (1.0 NTU)		0.96	0.0	0.0		
Turbidity (10.0 NTU)		121.08	126	126		
DO (mg/L)						
DO%	104.0	~~236.3~~ OR	100.0	101.3		
ORP (mV)		236.3	240	240		
Notes:		10.01	10.0	10.0		

Field Forms-Environmental.xls.xls
Inst Calibration

ARCADIS
Instrument Calibration Log

Project Name: Nike Bu 51/52

Project Number: 30027953

Calibrating Personnel: K Sidlson

Time of Calibration: 11:00

Weather Conditions:

Barometric Pressure: _____ mm Hg

Date: 9/30/2020

CALIBRANT	INSTRUMENT	INITIAL READING	VALUE ENTERED	FINAL READING	TIME	TEMP
pH 7.00	456000 YSI	6.75	7.0	7.0	11:00	15.8°C
pH 4.01		4.02	4.0	4.0		
Conductivity (MS/cm)		1.423	1.413	1.413		
Turbidity (1.0 NTU)		0.40	0.0	0.00		
Turbidity (10.0 NTU)		123.50	126	126		
DO (mg/L)						
DO%						
ORP (mV)		246.6	240	240.0		
	pH	10.04	10.0	10.0		

Notes:

ARCADIS

Instrument Calibration Log

Project Name: Nike Bus 152

Project Number: 30027953

Calibrating Personnel: K Clubine

Time of Calibration: 12:10

Weather Conditions: 75 Sunny

Barometric Pressure: _____ mm Hg

Date: 9/30/2020

CALIBRANT	INSTRUMENT	INITIAL READING	VALUE ENTERED	FINAL READING	TIME	TEMP
~~pH 7.00~~ 10	YSI	10.46	10.0	10.02	12:10	18.9
pH 4.01		3.6	4.0	4.01		
Conductivity (_____)		1.509	1.413	1411		
Turbidity (1.0 NTU)		4.61	0	0		
Turbidity (~~10.0~~ 124 NTU)		150.3	124	123.56		
DO (mg/L)		105.4	100.0	106.6		
DO%						
ORP (mV)		251.7	240.0	239.5		
pH 7.0		7.04	7.00	6.97		

Notes:

jds
Inst Calibration

ARCADIS

Groundwater Sampling Form

Page 1 of 1

Project No. 30027153 | Well ID MW-10B | Date 12/16/20

Project Name/Location Nike Bk 51/52 | Weather 22°F, light snow

Measuring Pt. Description TIC | Screen Setting (ft-bmp) ~ | Casing Diameter (in.) 2 | Well Material ___ PVC ___ SS ___ Other

Total Depth (ft-bmp) 15.06 | Static Water Level (ft-bmp) 5.87 | Water Column in Well 9.19 | Gallons in Well 1.50

Calc. Gallons Purged 2.376 | Pump Intake (ft-bmp) 11.56 | Purge Method: | Sample Method Low flow

Gallons Purged 2.5 | MP Elevation ~ | Centrifugal ___ Submersible ___ Disp. Bailer ___ Other peristaltic pump | Pump On/Off 1253

Sample Time: Label 1339 | Replicate/ Code No. ___ | Sampled by AG

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (umhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
1258	5	200	5.91	0.264	7.13	1254	35.6	3.23	10.21	25.1	olangish	"
1303	10	200	5.94	0.528	7.04	1187	41.5	2.81	10.11	-8.3	"	"
1308	15	200	5.96	0.792	6.86	1234	25.2	2.51	9.98	-11.2	"	"
1313	20	200	5.99	1.056	6.43	1256	17.8	1.23	9.81	-21.5	"	"
1318	25	200	6.00	1.32	6.25	1198	11.7	0.23	9.78	-30.2	Clear	"
1323	30	200	6.02	1.584	6.25	1197	10.23	0.20	9.83	-30.9	"	"
1328	35	200	6.03	1.848	6.26	1197	9.45	0.18	9.86	-33.4	"	"
1333	40	200	6.04	2.112	6.26	1196	8.97	0.12	9.91	-32.1	"	"
1338	45	200	6.06	2.376	6.26	1198	8.56	0.10	9.86	-25.1	"	"

Constituents Sampled	Container	Number	Preservative
VOCs	40mL VOA	3	HCl
SVOCs	1L Amber	2	None
Metals + Hardness (Field filtered)	250mL Poly	1	HNO_3
Metals + Hardness (Lab filtered)	250mL Poly	1	HNO_3
Cr 6+	125 mL Poly	1	HNO_3

Well Information

Well Location: North side of site AG Central | Well Locked at Arrival: (Yes) / No

Condition of Well: Good | Well Locked at Departure: (Yes) / No

Well Completion: Flush Mount / (Stick Up) | Key Number To Well: 2342

NOTES:

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

ARCADIS
Groundwater Sampling Form

Project No. 30027153 | Well ID MW-1BR | Date 12/16/20

Project Name/Location Nike BU 51/52 | Weather 27°F, cloudy

Measuring Pt. Description TIC | Screen Setting (ft-bmp) — | Casing Diameter (in.) 2 | Well Material X PVC, SS, Other

Total Depth (ft-bmp) 24.98 | Static Water Level (ft-bmp) 5.53 | Water Column in Well 19.35 | Gallons in Well 3.15

Calc. Gallons Purged 2.376 | Pump Intake (ft-bmp) 21.38 | Purge Method: Centrifugal Submersible, Disp. Bailer, Other Peristaltic | Sample Method low flow

Gallons Purged 2.5 | MP Elevation — | Pump On/Off 1406

Sample Time: Label AG-1-7452 | Replicate/ Code No. | Sampled by AG

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (µmhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
1411	5	200	5.58	0.264	6.68	1121	12.4	1.21	9.93	-121.4	clear	none
1416	10	200	5.64	0.528	6.53	1165	7.41	0.61	9.90	-116.5	"	"
1421	15	200	5.71	0.792	6.49	1190	3.90	0.30	9.83	-117.9	"	"
1426	20	200	5.76	1.056	6.48	1193	3.32	0.27	9.91	-138.4	"	"
1431	25	200	5.80	1.32	6.45	1197	2.78	0.20	10.17	-145.3	"	"
1436	30	200	5.84	1.584	6.43	1203	2.19	0.11	10.35	-157.4	"	"
1441	35	200	5.85	1.848	6.42	1210	1.73	0.07	10.40	-146.2	"	"
1446	40	200	5.85	2.112	6.42	1219	1.44	0.08	10.40	-151.0	"	"
1451	45	200	5.85	2.376	6.42	1217	1.21	0.08	10.37	-153.8	"	"

Constituents Sampled	Container	Number	Preservative
VOCs	40 mL VOA	3	HCl
SVOCs	1L Amber	2	None
Metals + Hardness (field filtered)	250 mL Poly	1	HNO3
Metals + Hardness (lab filtered)	250 mL Poly	1	HNO3
Cr 6+	125 mL Poly	1	None

Well Information

Well Location: Central | Well Locked at Arrival: (Yes) / No

Condition of Well: Good | Well Locked at Departure: (Yes) / No

Well Completion: Flush Mount / (Stick Up) | Key Number To Well: 2342

NOTES:

Well Casing Volumes

Gallons/Foot: 1" = 0.04; 1.25" = 0.06; 1.5" = 0.09; 2" = 0.16; 2.5" = 0.26; 3" = 0.37; 3.5" = 0.50; 4" = 0.65; 6" = 1.47

ARCADIS

Groundwater Sampling Form

Page 1 of ____

Project No. ____ Well ID NHFLA-MW2-DEC2020 Date 12/15/20

Project Name/Location Nike BU 51152 Weather ____

Measuring Pt. Description TIC Screen Setting (ft-bmp) 6.6-14.6 Casing Diameter (in.) 2 Well Material X PVC ___ SS ___ Other

Total Depth (ft-bmp) 14.60 Static Water Level (ft-bmp) 14.40 Water Column in Well ____ Gallons in Well ____

Calc. Gallons Purged ____ Pump Intake (ft-bmp) 10.6 Purge Method: Centrifugal ____ Submersible ____ Disp. Bailer ____ Other ____ Sample Method low flow

Gallons Purged 2 MP Elevation ____

Sample Time: Label 12:53 Replicate/ Code No. ____ Pump On/Off 12:14/1300

Sampled by JG

10% 0.1

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC 0.3'	Gallons Purged	pH 0.1	3% Cond. (µmhos) (mS/cm)	Turbidity 10% 1 (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F) 3%	Redox 10 (mV)	Appearance Color	Appearance Odor
12:20	5	150	4.52	.25	5.33	.720	9.85	1.76	8.29	193.9	clear	no
12:25	10	150	4.55	.5	5.22	.697	7.67	1.38	7.64	188.8	clear	no
12:30	15	140	4.58	.75	5.14	.716	7.91	1.31	7.71	182.1	clear	no
12:35	20	140	4.57	1	5.11	.694	8.12	1.64	7.84	176.9	clear	no
12:40	25	145	4.55	1.25	5.18	.691	6.20	1.22	7.97	173.6	clear	no
12:45	30	~~145~~ 150	4.59	1.5	5.22	.681	4.73	1.12	7.82	170.7	clear	no
12:50	35	150	4.57	1.75	5.24	.686	4.78	.97	7.80	167.7	clear	no
	40	150	4.56	2.0	5.22	.683	4.74	~~1.07~~ .97	7.81	166		
								~~NM~~				

(Analytes)

Constituents Sampled	Container	Number	Preservative
VOCs	40mL VOA	3	HCl
SVOCs	1L Amber	2	None
Metals + Hardness (field filtered)	250mL Poly	1	HNO_3
Metals + Hardness (lab filtered)	250mL Poly	1	HNO_3 ~~None~~ ~~None~~
Cr6+	125mL Poly	1	None

Well Information

Well Location: ____

Condition of Well: Good / New

Well Completion: Flush Mount / (Stick Up)

Well Locked at Arrival: (Yes) / No

Well Locked at Departure: (Yes) / No

Key Number To Well: 2342

NOTES:

Well Casing Volumes

Gallons/Foot				
1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

ARCADIS

Groundwater Sampling Form

Page 2 of ____

Project No. ____ Well ID NHFLA-MW3-DEC2020 Date 12/15/20

Project Name/Location Nike BU 51/52 Weather ____

Measuring Pt. Description TIC | Screen Setting (ft-bmp) ____ | Casing Diameter (in.) 2 | Well Material ___ PVC ___ SS ___ Other

Total Depth (ft-bmp) 14.12 | Static Water Level (ft-bmp) 7.60 | Water Column in Well 6.52 | Gallons in Well ____

Calc. Gallons Purged ____ | Pump Intake (ft-bmp) 10.86 | Purge Method: Centrifugal ____ Submersible ____ | Sample Method LOW FLOW

Gallons Purged 1.55 | MP Elevation ____ | Disp. Bailer ____ Other ____ | Pump On/Off 14:25

Sample Time: Label 1510 | Replicate/ Code No. ____ | Sampled by JG 15:30

10% OR 1 if <1

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC 0.3	Gallons Purged	pH 0.1	3% Cond. (µmhos) (mS/cm)	Turbidity 10% (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) 3% (°F)	Redox 10 (mV)	Appearance Color	Appearance Odor
1430	5	140	7.95	.25	5.99	7.316	18.5	3.00	9.38	24.1	cloudy	no
1435	10	145	7.95	.5	5.98	7.324	19.2	1.91	9.32	24.7	no	no
1440	15	145	7.97	.5	6.04	7.350	21.7	.42	9.62	20.6	no	no
1445	20	145	7.99	.65	6.04	7.334	18.5	.32	9.75	18.3	no	no
1450	25	145	7.97	.85	6.04	7.357	14.7	.27	9.89	16.3	no	no
1455	30	145	7.98	1.2	6.05	7.391	11.0	.36	10.22	13.4	no	no
1500	35	145	7.96	1.35	6.06	7.357	11.9	.26	10.20	13.4	no	no
1505	40	145	7.95	1.55	6.06	7.352	11.2	[illegible]	9.93	11.4	no	no

Constituents Sampled	Container	Number	Preservative
VOCs	40mL VOA	3	HCl
SVOCs	1L Amber	2	None
Metals + hardness (field filter)	250mL poly	1	HNO_3
Metals + hardness (lab filtered)	250mL poly	1	HNO_3
Cr6+	125mL Poly	1	None

Well Information

Well Location: ____

Condition of Well: Good / New

Well Completion: Flush Mount / Stick Up

Well Locked at Arrival: Yes / No

Well Locked at Departure: Yes / No

Key Number To Well: 2342

NOTES:

Well Casing Volumes

Gallons/Foot: 1" = 0.04 | 1.25" = 0.06 | 1.5" = 0.09 | 2" = 0.16 | 2.5" = 0.26 | 3" = 0.37 | 3.5" = 0.50 | 4" = 0.65 | 6" = 1.47

ARCADIS

Groundwater Sampling Form

Page ___ of ___

Project No. _____ Well ID MW40B Date 12/16/20

Project Name/Location NIKE BUF Weather _____

Measuring Pt. Description _____ Screen Setting (ft-bmp) 4.5-12.5 Bgs Casing Diameter (in.) 2 Well Material X PVC ___ SS ___ Other

Total Depth (ft-bmp) 15.12 Static Water Level (ft-bmp) 3.57 Water Column in Well _____ Gallons in Well _____

Calc. Gallons Purged _____ Pump Intake (ft-bmp) 10.5 Purge Method: Centrifugal _____ Submersible _____ Disp. Bailer _____ Other _____ Sample Method Low flow

Gallons Purged NOT 2 MP Elevation _____ Pump On/Off 12:30 / ~~1445~~

Sample Time: Label 1325 Replicate/ Code No. _____ Sampled by JG

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (µmhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox 10 (mV)	Appearance Color	Appearance Odor
12:35	5	148	4.27	.35	6.81	.002	26.1	12.52	4.42	16.4	slight brown	no
12:40	10	155	4.76	.5	6.42	.001	18.7	11.14	4.48	18.9	slight brown	no
12:45	15	150	4.71	.65	6.85	.002	16.2	11.58	5.38	9.9	slight brown	no
12:50	20	150	4.70	.8	7.41	1.496	19.3	10.21	8.14	-17.6	slight brown	no
12:55	25	150	4.73	1	7.29	2.974	15.1	2.90	8.72	-38.4	slight brown	no
13:00	30	150	4.77	1.2	7.11	3.612	14.5	1.75	8.85	-81.3	slight brown	no
13:05	35	150	4.72	1.35	7.11	3.642	12.8	.33	8.86	-87.3	clear	no
13:10	40	150	4.74	1.5	7.09	3.627	11.9	.25	8.56	-94.2	clear	no
13:15	45	150	4.71	1.65	7.10	3.622	11.8	.25	8.54	-96.2	clear	no
13:20	50	150	4.70	1.75	7.10	3.621		.27	8.63	-98.9	clear	no
	55											
	60											

Constituents Sampled	Container	Number	Preservative
VOCs	40mL VOA	3	HCl
SVOCs	1 L Amber	2	none
Metals + Hardness (Field filter)	250mL poly	1	HNO_3
Metals + Hardness (Lab filter)	250mL poly	1	HNO_3
Cr6+	~~250mL~~ 250mL poly	1	none

Well Information

Well Location: _____ Well Locked at Arrival: (Yes) / No

Condition of Well: Good / New Well Locked at Departure: (Yes) / No

Well Completion: Flush Mount / (Stick Up) Key Number To Well: _____

NOTES: _____

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

ARCADIS

Groundwater Sampling Form

Page ___ of ___

Project No. ___ Well ID MW4BR Date 12/16/20

Project Name/Location NIKE BUF Weather ___

Measuring Pt. Description ___ Screen Setting (ft-bmp) 17-25 Bgs Casing Diameter (in.) 2 Well Material X PVC ___ SS ___ Other

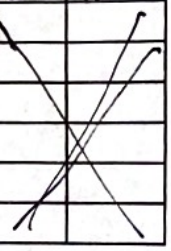
Total Depth (ft-bmp) 28.03 Static Water Level (ft-bmp) 5.69 Water Column in Well ___ Gallons in Well ___

Calc. Gallons Purged ___ Pump Intake (ft-bmp) 24.53 Purge Method: Centrifugal ___ Submersible ___ Disp. Bailer ___ Other ___ Sample Method LOW FLOW

Gallons Purged ___ MP Elevation ___ Pump On/Off 1445 / 1000

Sample Time: Label 1530 Replicate/ Code No. ___ Sampled by JG

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH (.1)	Cond. (µmhos) (mS/cm) (3%)	Turbidity (NTU) (10% or 1)	Dissolved Oxygen (mg/L) (10%)	Temp. (°C) (°F) (3%)	Redox (mV)	Appearance Color	Appearance Odor
1450	5	148	9.64	.4	7.20	4.683	8.41	.54	9.69	-99.2	clear	no
1455	10	150	9.61	.6	7.20	4.582	7.14	.58	9.46	-95.9	clear	no
1500	15	145	10.58	.75	7.21	4.427	5.27	1.12	9.17	-90.3	clear	no
1505	20	145	12.12	1.0	7.34	4.262	4.55	2.11	9.50	-75.9	clear	no
1510	25	145	13.15	1.2	7.49	4.160	3.48	2.72	9.41	-68.5	clear	no
1515	30	150	13.84	1.5	7.62	4.133	3.70	2.69	9.38	-60.8	clear	no
1520	35	150	14.24	1.05	7.67	4.075	4.54	[illegible]	8.86	-58.8	clear	no
1525	40											
1530	45											



Constituents Sampled	Container	Number	Preservative
VOCs	40mL VOA	3	HCl
SVOCs	1L Amber	2	none
Metals + Hardness (Field filter)	250mL poly	1	HNO_3
Metals + Hardness (Lab filter)	250mL poly	1	HNO_3
Cr6+	250mL poly	1	none

Well Information

Well Location: ___

Condition of Well: Good / NEW

Well Completion: Flush Mount / Stick Up

Well Locked at Arrival: Yes / No

Well Locked at Departure: Yes / No

Key Number To Well: 2342

NOTES: ___

Well Casing Volumes

Gallons/Foot				
1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

ARCADIS

Groundwater Sampling Form

Project No. 30027153 | Well ID MW-SOB | Date 11/16/20

Project Name/Location Nike BH 51/52 | Weather 30°F, overcast

Measuring Pt. Description TIC | Screen Setting (ft-bmp) — | Casing Diameter (in.) 2 | Well Material X PVC, SS, Other

Total Depth (ft-bmp) 21.14 | Static Water Level (ft-bmp) 4.41 | Water Column in Well 16.73 | Gallons in Well 2.73

Calc. Gallons Purged 2.079 | Pump Intake (ft-bmp) 17.64 | Purge Method: Centrifugal Submersible, Disp. Bailer Other peristaltic | Sample Method low flow

Gallons Purged 2.25 | MP Elevation —

Sample Time: Label 1212 | Replicate/ Code No. — | Pump On/Off 1126 | Sampled by A. Gibson

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (µmhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
1131	5	175	4.78	0.231	7.25	770	20.0	0.29	10.71	8.6	clear	none
136	10	11	4.93	0.462	7.25	768	14.4	0.27	10.68	10.1	clear	none
1141	15	11	5.21	0.693	7.25	769	8.64	0.28	10.69	9.5	clear	none
1146	20	11	5.29	0.924	7.19	2176	7.23	0.29	10.82	-84.5	11	11
1151	25	11	5.34	1.155	7.07	3583	6.90	0.30	11.04	-151.6	11	11
1156	30	11	5.37	1.386	7.08	3741	4.71	0.25	10.81	-175.4	11	11
1201	35	11	5.40	1.617	7.09	3854	2.91	0.20	10.50	-189.8	11	11
1206	40	11	5.44	1.848	7.06	3921	2.80	0.17	10.52	-192.4	11	11
1211	45	11	5.43	2.079	7.06	3941	2.84	0.14	10.53	-196.5	11	11

Constituents Sampled	Container	Number	Preservative
VOCs	40 mL VoA	3	HCl
SVOCs	1L Amber	2	None
Metals + Hardness (Field filtered)	250mL Poly	1	HNO3
Metals + Hardness (Lab filtered)	250mL Poly	1	HNO3
Krbt	125mL Poly	1	None

Well Information

Well Location: South offsite | Well Locked at Arrival: (Yes) / No

Condition of Well: Good | Well Locked at Departure: (Yes) / No

Well Completion: Flush Mount / (Stick Up) | Key Number To Well: 2342

NOTES:

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

ARCADIS

Groundwater Sampling Form

Project No. 30027153 | Well ID MW5BR | Date 12/16/20

Project Name/Location Nike BU 51/52 | Weather 22°F, cloudy

Measuring Pt. Description TIC | Screen Setting (ft-bmp) — | Casing Diameter (in.) 2 | Well Material ___ PVC ___ SS ___ Other

Total Depth (ft-bmp) 41.82 | Static Water Level (ft-bmp) 40.72 | Water Column in Well 1.1 | Gallons in Well 0.18

Calc. Gallons Purged — | Pump Intake (ft-bmp) 38.32 | Purge Method: Centrifugal ___ Submersible ___ Disp. Bailer X Other ___ | Sample Method Low flow Grab

Gallons Purged — | MP Elevation —

Sample Time: Label ___ | Replicate/ Code No. ___ | Pump On/Off 1047

Sampled by AG

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (µmhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
1047	0	—	—	initial	7.59	6612	1000	2.73	11.10	-46	Brown	none
	purged dry											

Constituents Sampled | **Container** | **Number** | **Preservative**

Not Sampled

Well Information

Well Location: South of Site

Condition of Well: Good

Well Completion: Flush Mount / (Stick Up)

Well Locked at Arrival: (Yes) / No

Well Locked at Departure: (Yes) / No

Key Number To Well: 2342

NOTES:

Well Casing Volumes

Gallons/Foot: 1" = 0.04 | 1.25" = 0.06 | 1.5" = 0.09 | 2" = 0.16 | 2.5" = 0.26 | 3" = 0.37 | 3.5" = 0.50 | 4" = 0.65 | 6" = 1.47

ARCADIS

Groundwater Sampling Form

Page ___ of ___

Project No. ___ Well ID MW-6 Date 12/18/20

Project Name/Location NIKE BU 51/52 Weather 25° sunny

Measuring Pt. Description ___ Screen Setting (~~ft-bmp~~) 4-11'bgs Casing Diameter (in.) 2 Well Material X PVC ___ SS ___ Other

Total Depth (ft-bmp) 13.81 Static Water Level (ft-bmp) 5.49 Water Column in Well ___ Gallons in Well ___

Calc. Gallons Purged ___ Pump Intake (ft-bmp) 10.31 Purge Method: Centrifugal ___ Submersible ___ Disp. Bailer ___ Other ___ Sample Method ___

Gallons Purged ___ MP Elevation ___ Pump On/Off 12:55/1345

Sample Time: Label 1325 Replicate/ Code No. ___ Sampled by JG

0.1 3% 1 or 10% .1 or 10% 3% 10

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (µmhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance	
											Color	Odor
1300	5	150	6.12	.2	5.68	3.549	27.0	.27	10.47	113.6	brown	no
1305	10	150	6.19	.5	5.65	3.591	22.2	.32	10.42	121.3	brown	no
1310	15	150	6.21	.7	5.65	3.689	20.0	.27	10.68	131.2	brown	no
1315	20	150	6.22	1	5.70	4.240	[illegible] 10.4	.20	10.73	122.7	brown tint	no
1320	25	150	6.22	1.25	5.72	4.241	[illegible] 15.2	.21	10.71	127.9	clear	no
1325	30	150	6.21	1.5	5.70	4.419	[illegible] 15.7	.24	11.12	113.1	clear	no
~~1330~~	~~35~~											
~~1335~~	~~40~~											

Constituents Sampled	Container	Number	Preservative
VOCs	40mL VOA	3	HCl
SVOCs	1L Amber	2	none
metals + Hardness (field filter)	250mL Poly	1	HNO_3
metals + Hardness	250mL Poly	1	HNO_3
Cr6+	AA 125mL Poly	2	none

Well Information

Well Location: ___ Well Locked at Arrival: (Yes) / No

Condition of Well: ___ Well Locked at Departure: (Yes) / No

Well Completion: Flush Mount / (Stick Up) Key Number To Well: 2342

NOTES:

Well Casing Volumes

Gallons/Foot 1" = 0.04 1.25" = 0.06 1.5" = 0.09 2" = 0.16 2.5" = 0.26 3" = 0.37 3.5" = 0.50 4" = 0.65 6" = 1.47

ARCADIS

Groundwater Sampling Form

Page 1 of ____

Project No. ____ Well ID MW7013 Date 12/17/20

Project Name/Location NIKE BU 51/52 Weather 20° cloudy

Well Material X PVC ___ SS ___ Other

Measuring Pt. Description ____ Screen Setting (ft-bmp) 4-11' BGS Casing Diameter (in.) ____

Total Depth (ft-bmp) 13.97 Static Water Level (ft-bmp) ____ Water Column in Well 2 Gallons in Well ____

Calc. Gallons Purged ____ Pump Intake (ft-bmp) 10.47 Purge Method: Centrifugal ____ Sample Method ____

Gallons Purged ____ MP Elevation ____ Submersible ____ Disp. Bailer ____

Sample Time: Label 1230 Replicate/ Code No. ____ Other ____ Pump On/Off 11:45 / 1245

Sampled by JG

0.1 3% 1 or 10% DO 3% 10

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (µmhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
11:50	5	150	5.58	.1	8.09	.449	2.19	.71	9.68	17.4	clear	no
11:55	10	150	5.59	.4	8.21	.431	2.11	.46	9.62	-3.1	clear	no
12:00	15	150	5.61	.10	8.20	.429	2.02	.32	9.89	-12.2	clear	no
12:05	20	150	5.60	.85	8.31	.423	3.02	.31	9.91	-16.7	clear	no
12:10	25	150	5.62	1.1	8.41	.423	3.48	.33	10.16	-14.7	clear	no
12:15	30	150	5.60	1.25	8.50	.420	3.21	.29	9.98	-13.7	clear	no
12:20	35	150	5.59	1.5	8.52	.421	3.23	.24	10.08	-14.2	.	
					8.53	.421	3.21	.26	10.11	-13.6		

Constituents Sampled	Container	Number	Preservative
VOCs	40mL VOA	3	HCl
SVOCs	1L Amber	2	none
metals + Hardness (field filter)	250mL poly	1	HNO_3
Metals + Hardness (lab filter)	250mL poly	1	HNO_3
Cr6+	250mL poly	1	none

Well Information

Well Location: ____ Well Locked at Arrival: (Yes) / No

Condition of Well: Good / New Well Locked at Departure: Yes / No

Well Completion: Flush Mount / (Stick Up) Key Number To Well: 2342

NOTES:

Dup collected - Dup-14

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

ARCADIS

Groundwater Sampling Form

Project No. _____ Well ID MW7BR Date 12/17/20 Page ___ of ___

Project Name/Location NIKE BU 51/52 Weather _____

Measuring Pt. Description _____ Screen Setting (ft-bmp) 20-28' Casing Diameter (in.) 2 Well Material X PVC ___ SS ___ Other

Total Depth (ft-bmp) 27.13 Static Water Level (ft-bmp) _____ Water Column in Well _____ Gallons in Well _____

Calc. Gallons Purged _____ Pump Intake (ft-bmp) 23.57 Purge Method: Centrifugal _____ Submersible _____ Sample Method _____

Gallons Purged 2.5 MP Elevation _____ Disp. Bailer _____ Pump On/Off 1300/1415 1320/1325

Sample Time: Label 1350 Replicate/ Code No. _____ Other _____ Sampled by JG

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged .2	pH 0.1	Cond. (µmhos) (mS/cm) 3%	Turbidity (NTU) 10 or 10%	Dissolved Oxygen (mg/L) 10%	Temp. (°C) (°F) 3%	Redox (mV) 10	Appearance Color	Appearance Odor
1305	5	150	5.61		9.17	.355	3.71		8.07	9.8	clear	no
1310	10	150	5.64		9.54	.321	3.48	15.1	7.21	8.4	↓	
1315	15	150	5.71		9.21	.376	3.10	14.4	7.14	8.7		
1320	20	150	5.61	1	9.24	.192	4.92	18.00	7.17	7.8		
1325	25	150	5.63	1.2	9.34		5.62	17.88	7.15	4.2		
1330	30	150	5.64	1.5	9.26		3.24	17.95	7.14	-0.5		
1335	35	150	5.65	1.7	9.29	.417	3.78	18.16	7.12	-13.9		
1340	40	150	5.61	1.9	9.26	.368	3.69	18.35	7.14	-18.7		
1345	45	150	5.69	2.2	9.26	.357	3.73	18.27	7.14	-12.4		
1350	50	150	5.61	2.5	9.27	.341	3.71	18.32	7.12	-13.6	↓	↓

Constituents Sampled	Container	Number	Preservative
VOCs	40mL VOA	3	HCl
SVOCs	1L Amber	2	none
metals + Hardness (field filter)	250mL poly	1	HNO_3
metals + Hardness	250mL poly	1	HNO_3
Cr6+	250mL poly	1	none

Well Information

Well Location: _____ Well Locked at Arrival: (Yes) / No

Condition of Well: Good / new Well Locked at Departure: (Yes) / No

Well Completion: Flush Mount / (Stick Up) Key Number To Well: 2342

NOTES:

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

ARCADIS
Groundwater Sampling Form

Project No. 30027157 | Well ID MW-8 | Date 12/15/20

Project Name/Location Nike Bus//52 | Weather 27°F, lightsnow

Measuring Pt. Description TIC | Screen Setting (ft-bmp) — | Casing Diameter (in.) 2 | Well Material X PVC / SS / Other

Total Depth (ft-bmp) 13.86 | Static Water Level (ft-bmp) 4.92 | Water Column in Well 8.94 | Gallons in Well 1.46

Calc. Gallons Purged 2.97 | Pump Intake (ft-bmp) 10.36 | Purge Method: Centrifugal / Submersible / Disp. Bailer / Other Peristaltic | Sample Method low flow

Gallons Purged 3.0 | MP Elevation — | Pump On/Off 1520

Sample Time: Label 1606 | Replicate/ Code No. — | Sampled by AG

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (µmhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
1525	5	250	4.98	0.33	6.53	1467	17.4	2.14	8.97	102.5	yellowish	none
1530	10	250	5.05	0.66	6.44	1358	11.1	0.39	9.96	95.5	"	"
1535	15	250	5.06	0.99	6.21	1359	9.91	0.28	10.02	95.8	clear	"
1540	20	250	5.06	1.32	5.98	1360	7.80	0.17	10.10	96.3	"	"
1545	25	250	5.05	1.65	5.92	1362	6.34	0.13	10.11	82.4	"	"
1550	30	250	5.04	1.98	5.89	1366	5.10	0.12	10.11	74.0	"	"
1555	35	250	5.04	2.31	5.88	1364	4.58	0.10	10.18	70.3	"	"
1600	40	250	5.04	2.64	5.85	1363	4.00	0.10	10.22	65.5	"	"
1605	45	250	5.04	2.97	5.83	1362	3.91	0.10	10.25	63.1	"	"

Constituents Sampled	Container	Number	Preservative
VOCs	40mL VoA	3	HCl
SVOCs	1L Amber	2	None
Metals + Hardness (field filtered)	250mL P.ly	1	HNO3
Metals + Hardness (lab filtered)	250mL P.ly	1	HNO3
Cr6+	125mL P.ly	1	None

Well Information

Well Location: NW side of site | Well Locked at Arrival: Yes / No

Condition of Well: Good | Well Locked at Departure: Yes / No

Well Completion: Flush Mount / Stick Up | Key Number To Well: 2342

NOTES:

Well Casing Volumes

Gallons/Foot: 1" = 0.04 | 1.25" = 0.06 | 1.5" = 0.09 | 2" = 0.16 | 2.5" = 0.26 | 3" = 0.37 | 3.5" = 0.50 | 4" = 0.65 | 6" = 1.47

ARCADIS

Groundwater Sampling Form

Page 1 of 2

Project No. 30027153 | Well ID MW90B | Date 12/7/20

Project Name/Location Nike Bn 51/52 | Weather 24°F, overcast

Measuring Pt. Description TIC | Screen Setting (ft-bmp) — | Casing Diameter (in.) 2 | Well Material X PVC ___ SS ___ Other

Total Depth (ft-bmp) 14.53 | Static Water Level (ft-bmp) 5.21 | Water Column in Well 9.32 | Gallons in Well 1.519

Calc. Gallons Purged 5.28 | Pump Intake (ft-bmp) 11.13 | Purge Method: | Sample Method low flow

Gallons Purged 5.5 | MP Elevation — | Centrifugal ___ Submersible ___ Disp. Bailer ___ Other Peristaltic | Pump On/Off 1136

Sample Time: Label ___ | Replicate/ Code No. ___ | Sampled by AG

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (µmhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
1141	5	200	5.28	0.264	6.58	2977	68.3	4.22	9.14	55.6	yellow	none
1146	10	200	5.29	0.528	6.55	3017	42.6	3.12	8.82	38.9	"	"
1151	15	200	5.30	0.792	6.56	3014	38.7	2.97	8.70	33.4	"	"
1156	20	200	5.30	1.056	6.58	0009	30.4	2.38	8.89	31.5	"	"
1201	25	200	5.31	1.32	6.59	3006	24.4	2.25	9.14	30.0	clear	"
1206	30	200	5.32	1.584	6.58	2917	18.5	1.93	9.16	29.1	"	"
1211	35	200	5.32	1.848	6.58	2838	12.7	1.11	9.16	28.2	"	"
1216	40	200	5.32	2.112	6.56	2759	11.45	0.93	9.03	29.5	"	"
1221	45	200	5.32	2.376	6.54	2639	10.77	0.70	8.80	31.5	"	"
1226	50	200	5.32	2.64	6.53	2581	9.33	0.63	8.71	31.8	"	"
1231	55	200	5.32	2.904	6.52	2542	8.75	0.55	8.64	32.7	"	"
1236	60	200	5.32	3.168	6.48	2502	8.24	0.50	8.59	33.3	"	"
1241	65	200	5.32	3.432	6.46	2440	7.36	0.48	8.54	34.0	"	"

Constituents Sampled	Container	Number	Preservative
VOCs	40mL VOA	3	HCl
SVOCs	1L Amber	2	None
Metals + Hardness (Field filtered)	250mL Poly	1	HNO_3
Metals + Hardness, total	250mL Poly	1	HNO_3
Cr6+	125mL Poly	1	None

Well Information

Well Location: North of site

Condition of Well: Good

Well Completion: Flush Mount / (Stick Up)

Well Locked at Arrival: (Yes) / No

Well Locked at Departure: (Yes) / No

Key Number To Well: 2342

NOTES:

Well Casing Volumes

Gallons/Foot: 1" = 0.04 | 1.25" = 0.06 | 1.5" = 0.09 | 2" = 0.16 | 2.5" = 0.26 | 3" = 0.37 | 3.5" = 0.50 | 4" = 0.65 | 6" = 1.47

ARCADIS

Groundwater Sampling Form

Project No. 30027153 | Well ID MW-90B | Date 12/17/20

Project Name/Location Nike Bus 1/52 | Weather 24°F; Overcast

Measuring Pt. Description TIC | Screen Setting (ft-bmp) — | Casing Diameter (in.) 2 | Well Material X PVC / SS / Other

Total Depth (ft-bmp) 14.53 | Static Water Level (ft-bmp) 5.21 | Water Column in Well 9.32 | Gallons in Well 1.519

Calc. Gallons Purged 5.28 | Pump Intake (ft-bmp) 11.13 | Purge Method: Centrifugal / Submersible / Disp. Bailer / Other Peristaltic | Sample Method Low Flow

Gallons Purged 5.5 | MP Elevation | Pump On/Off 1336

Sample Time: Label 1317 | Replicate/ Code No. | Sampled by AG

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (µmhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
1246	70	200	5.32	3.696	6.48	2348	6.03	0.39	8.60	35.9	clear	none
1251	75	200	5.32	3.946	6.47	2281	5.29	0.32	8.51	38.6	"	"
1256	80	200	5.32	4.224	6.47	2288	4.73	0.26	8.29	42.1	"	"
1301	85	200	5.32	4.488	6.45	2205	4.24	0.24	8.14	44.5	"	"
1306	90	200	5.32	4.752	6.46	2194	3.79	0.23	7.86	46.2	"	"
1311	95	200	5.32	5.016	6.45	2162	3.54	0.21	7.87	47.0	"	"
1316	100	200	5.32	5.28	6.45	2135	3.18	0.20	7.80	46.8	"	"

Constituents Sampled	Container	Number	Preservative
VOCs	40mL VOA	3	HCl
SVOCs	1L Amber	2	None
Metals + Hardness (Field Filtered)	250mL Poly	1	HNO3
Metals + Hardness, total	250mL Poly	1	HNO3
Cr6+	125mL Poly	1	None

Well Information

Well Location: North of Site | Well Locked at Arrival: (Yes) / No

Condition of Well: Good | Well Locked at Departure: (Yes) / No

Well Completion: Flush Mount / (Stick Up) | Key Number To Well: 2342

NOTES:

Well Casing Volumes

Gallons/Foot: 1" = 0.04 | 1.25" = 0.06 | 1.5" = 0.09 | 2" = 0.16 | 2.5" = 0.26 | 3" = 0.37 | 3.5" = 0.50 | 4" = 0.65 | 6" = 1.47

ARCADIS

Groundwater Sampling Form

Project No. 30022153 | Well ID MW-13R | Date 2/17/20

Project Name/Location Nike BNS1/S2 | Weather 24°F, cloudy

Measuring Pt. Description TIC | Screen Setting (ft-bmp) — | Casing Diameter (in.) 2 | Well Material X PVC / SS / Other

Total Depth (ft-bmp) 26.25 | Static Water Level (ft-bmp) 5.87 | Water Column in Well 20.38 | Gallons in Well 3.32

Calc. Gallons Purged 3.762 | Pump Intake (ft-bmp) 22.75 | Purge Method: Centrifugal Submersible / Disp. Bailer / Other Peristaltic | Sample Method low flow

Gallons Purged 3.146 '3.75 | MP Elevation — | Pump On/Off 1337

Sample Time: Label — | Replicate/ Code No. — | Sampled by AG

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (µmhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
1342	5	250	7.27	0.33	7.12	3891	12.5	3.21	-10.5 ⇔	9.28	clear	none
1347	10	200	8.54	0.594	8.21	4254	9.17	2.52	-95.4 ⇔	GAL	"	"
1352	15	200	10.07	0.858	8.88	4886	7.44	1.78	-71.4 ⇔	10.39	"	"
1357	20	200	10.65	1.122	8.87	4875	6.83	1.80	10.12	-89.1	"	"
1402	25	200	11.83	1.386	8.87	4869	5.91	1.82	9.78	-75.3	"	"
1407	30	200	12.58	1.65	8.87	4866	5.49	1.83	9.29	-70.6	"	"
1412	35	200	13.42	1.914	8.84	4788	5.44	1.68	9.85	-99.5	"	"
1417	40	200	14.96	2.178	8.79	4709	5.40	1.55	9.81	-110.6	"	"
1422	45	200	15.81	2.442	8.71	4681	5.71	1.45	9.83	-117.5	"	"
1427	50	200	16.53	2.706	8.68	4603	5.23	1.43	9.90	-120.3	"	"
1432	55	200	17.86	2.97	8.65	4583	6.39	1.41	9.90	-125.1	"	"
1437	60	200	18.85	3.234	8.59	4453	6.21	1.30	9.63	-129.1	"	"
1442	65	200	19.32	3.494	8.55	4440	6.04	1.25	9.64	-131.7	"	"

Constituents Sampled	Container	Number	Preservative
VOCs	40mL VOA	3	HCl
SVOCs	1L Amber	2	None
Metals + Hardness (Field Filtered)	250mL Poly	1	HNO3
Metals + Hardness (Lab Filtered) Total	250mL Poly	1	HNO3
Cr6+	125mL Poly	1	None

Well Information

Well Location: North of site | Well Locked at Arrival: (Yes) / No

Condition of Well: Good | Well Locked at Departure: (Yes) / No

Well Completion: Flush Mount / (Stick Up) | Key Number To Well: 2342

NOTES:

Well Casing Volumes

Gallons/Foot: 1" = 0.04 | 1.25" = 0.06 | 1.5" = 0.09 | 2" = 0.16 | 2.5" = 0.26 | 3" = 0.37 | 3.5" = 0.50 | 4" = 0.65 | 6" = 1.47

ARCADIS
Groundwater Sampling Form

Project No. 30027253 | Well ID MW9BR | Date 12/12/20

Project Name/Location Nike BW51/52 | Weather ~4°F, Cloudy

Measuring Pt. Description TIC | Screen Setting (ft-bmp) — | Casing Diameter (in.) 2 | Well Material X PVC / SS / Other

Total Depth (ft-bmp) 26.25 | Static Water Level (ft-bmp) 5.87 | Water Column in Well 20.38 | Gallons in Well 3.32

Calc. Gallons Purged 3.762 | Pump Intake (ft-bmp) 22.75 | Purge Method: | Sample Method low flow

Gallons Purged 3.75 | MP Elevation — | Centrifugal / Submersible / Disp. Bailer / Other peristaltic | Pump On/Off 1337

Sample Time: Label 1448 | Replicate/ Code No. | Sampled by AC

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (µmhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
1447	7*	200	14.65	3.762	8.54	4421	5.85	121	9.58	-134.8	clear	none

Constituents Sampled	Container	Number	Preservative
VOCs	40mL VOA	3	HCl
SVOCs	1L Amber	2	None
Metals + Hardness (Field Filtered)	250mL poly	1	HNO_3
Metals + Hardness (Lab Filtered) Total	250mL poly	1	HNO_3
Erbt	125mL poly	1	None

Well Information

Well Location: North of Site | Well Locked at Arrival: (Yes) / No

Condition of Well: Good | Well Locked at Departure: (Yes) / No

Well Completion: Flush Mount / (Stick Up) | Key Number To Well: 2342

NOTES:

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

ARCADIS

Groundwater Sampling Form

Page 1 of 1

Project No. 30027153 | Well ID MW-10 | Date 12/15/20

Project Name/Location Nike Bu 51/52 | Weather 27°F, light snow

Measuring Pt. Description TIC | Screen Setting (ft-bmp) – | Casing Diameter (in.) 2 | Well Material ___ PVC ___ SS ___ Other

Total Depth (ft-bmp) 16.81 | Static Water Level (ft-bmp) 6.58 | Water Column in Well 10.23 | Gallons in Well 1.67

Calc. Gallons Purged 2.112 | Pump Intake (ft-bmp) 13.31 | Purge Method: Centrifugal ___ Submersible ___ | Sample Method low flow

Gallons Purged 2.25 | MP Elevation – | Disp. Bailer ___ Other Peristaltic | Pump On/Off 1528

Sample Time: Label 1609 | Replicate/ Code No. ___ | Sampled by AG

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (µmhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
1533	5	250	6.83	0.264	6.81	1173	128,	2.14	10,38	65.4	orange/br	none
1538	10	225	6.97	0.528	6.59	1121	104	1.87	10,21	39.2	"	"
1543	15	200	7.18	0.792	6.52	1071	98.3	1.01	10,11	31.8	"	"
1548	20	200	7.20	1.056	6.49	1023	75.8	0.65	9.65	26.5	"	"
1553	25	200	7.23	1.32	6.47	940	61.7	0.25	9.08	29.5	Cloudy	"
1558	30	200	7.25	1.584	6.47	943	57.5	0.23	9.07	23.4	"	"
1603	35	200	7.26	1.848	6.50	946	55.4	0.19	9.06	20.8	"	"
1608	40	200	7.26	2.112	6.49	950	54.7	0.16	9.11	17.7	"	"

Constituents Sampled	Container	Number	Preservative
VOCs	40mL VOA	3	HCl
SVOCs	1L Amber	2	None
Metals + Hardness (Field Filtered)	250mL Poly	1	HNO3
Metals + Hardness / Total	250mL Poly	1	HNO3
Cr 6+	125mL Poly	1	None

Well Information

Well Location: Northeast Site | Well Locked at Arrival: (Yes) / No

Condition of Well: Good | Well Locked at Departure: (Yes) / No

Well Completion: Flush Mount / (Stick Up) | Key Number To Well: 2342

NOTES:

Well Casing Volumes

Gallons/Foot				
1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

ARCADIS

Groundwater Sampling Form

Page 3 of ____

Project No. ____ Well ID NHFLA-MW11-DEC2020 Date 12/15/20

Project Name/Location Nike BU 51/52 Weather ____

Measuring Pt. Description ____ Screen Setting (ft-bmp) 7.92-16.92 Casing Diameter (in.) 2 Well Material X PVC ___ SS ___ Other

Total Depth (ft-bmp) 16.92 Static Water Level (ft-bmp) 8.62 Water Column in Well 8.3 Gallons in Well ____

Calc. Gallons Purged ____ Pump Intake (ft-bmp) 12.77 Purge Method: Centrifugal ____ Submersible ____ Sample Method LOW FLOW

Gallons Purged ____ MP Elevation ____ Disp. Bailer ____ Pump On/Off 1550

Sample Time: Label 1630 Replicate/ Code No. ____ Other ____ Sampled by JG

3:1, 10:1, 10:1, 3:1, 10

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH 0.1	Cond. (µmhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
1555	5	150mL	8.63	.25	5.83	1.207	44.9	1.35	9.52	59.1	brown tint	no
1600	10	150	8.62	.55	5.83	1.174	42.4	.54	9.53	58.4	brown tint	no
1605	15	150	8.64	.65	5.82	1.163	39.8	.52	9.40	55.0	brown tint	no
1610	20	150	8.62	.85	5.85	1.159	25.2	.42	9.50	49.2	brown tint	no
1615	25	150	8.64	1.1	5.87	1.164	34.1	.37	9.64	41.3	brown tint	no
1620	30	150	8.63	1.25	5.89	1.158	33.7	.36	9.35	35.0	brown tint	no
1625	35	150	8.64	1.5	5.91	1.162	33.2	.32	9.42	27.3	brown tint	no

Constituents Sampled	Container	Number	Preservative
VOCs	40mL VOA	3	HCl
SVOCs	1L Amber	2	None
Metals + Hardness (Field Filter)	250mL poly	1	HNO_3
Metals + Hardness (Lab Filtered)	250mL poly	1	HNO_3
Cr6+	125mL poly	1	None

Well Information

Well Location: ____ Well Locked at Arrival: Yes / No

Condition of Well: Good/New Well Locked at Departure: Yes / No

Well Completion: Flush Mount / Stick Up Key Number To Well: 2342

NOTES:

Well Casing Volumes

Gallons/Foot 1" = 0.04 1.25" = 0.06 1.5" = 0.09 2" = 0.16 2.5" = 0.26 3" = 0.37 3.5" = 0.50 4" = 0.65 6" = 1.47

ARCADIS

Groundwater Sampling Form

Project No. 30027153 | Well ID MW-12 | Date 12/15/20

Project Name/Location NiKeBlvd 51/52 | Weather 27°F, light snow

Measuring Pt. Description TIC | Screen Setting (ft-bmp) – | Casing Diameter (in.) 2 | Well Material ___ PVC ___ SS ___ Other

Total Depth (ft-bmp) 13.50 | Static Water Level (ft-bmp) 8.07 | Water Column in Well 5.43 | Gallons in Well 0.89

Calc. Gallons Purged 2.12 | Pump Intake (ft-bmp) 10.00 | Purge Method: Centrifugal ___ Submersible ___ | Sample Method low flow

Gallons Purged 2.25 | MP Elevation – | Disp. Bailer ___ Other peristaltic | Pump On/Off 1417

Sample Time: Label 1458 | Replicate/ Code No. ___ | Sampled by AG

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. µmhos (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
1422	5	200	8.13	0.264	7.14	1431	18.4	3.24	10.31	31.4	clear	none
1427	10	200	8.27	0.528	7.30	973	14.7	2.17	10.14	26.2	"	"
1432	15	200	8.25	0.792	7.24	993	11.4 #46	2.02	10.19	34.5	"	"
1437	20	200	8.23	1.056	7.19	1004	9.32	1.76	10.23	41.3	"	"
1442	25	200	8.22	1.32	7.14	1010	8.79	1.23	10.28	46.5	"	"
1447	30	200	8.22	1.584	7.07	1019	#816	1.07	10.09	52.4	"	"
1452	35	200	8.22	1.848	7.05	1026	5.21	1.00	10.00	58.3	"	"
~~1457~~ 1457	40	200	8.22	2.112	7.02	1024	4.84	1.00	10.00	62.3	"	"
~~AQ 1502~~	~~45~~	~~200~~										

Constituents Sampled	Container	Number	Preservative
VOCs	40mL VOA	3	HCl
SVOCs	1L Amber	2	None
Metals + Hardness (Field & filtered)	250mL Poly	1	HNO3
Metals + Hardness, total	250mL poly	1	HNO3
Cr 6+	125mL Poly	1	None

Well Information

Well Location: ___

Condition of Well: Good

Well Completion: Flush Mount / Stick Up

Well Locked at Arrival: (Yes) / No

Well Locked at Departure: (Yes) / No

Key Number To Well: 2342

NOTES:

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

ARCADIS

Groundwater Sampling Form

Page ___ of ___

Project No. ___ Well ID MW-16 ~~13~~ Date 12/18/20

Project Name/Location NIKE BU 51/52 Weather 25°F sunny

Measuring Pt. Description ___ Screen Setting (ft-bmp) 4-11' bgs Casing Diameter (in.) 2 Well Material X PVC ___ SS ___ Other

Total Depth (ft-bmp) 13.87 ~~13.74~~ Static Water Level (ft-bmp) 5.29 DTW Water Column in Well ___ Gallons in Well ___

Calc. Gallons Purged ___ Pump Intake (ft-bmp) 10.37 Purge Method: Centrifugal ___ Submersible ___ Sample Method low flow

Gallons Purged ___ MP Elevation ___ Disp. Bailer ___ Pump On/Off 11:30 / 12:30

Sample Time: Label 1215 Replicate/ Code No. ___ Other ___ Sampled by JG

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (µmhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
		0.1	3'↓	1 or 10'↓	-1 or 10'↓	3'↓	10					
11:35	5	150	5.31	.25	7.50	1.194	2.03	.37	11.53	-89.4	clear	no
11:40	10	150	5.32	.5	7.51	1.207	1.77	.29	11.94	-83.6	clear	no
11:45	15	150	5.33	.75	7.41	1.226	3.04	.23	12.42	-71.9	clear	no
11:50	20	150	5.33	1	7.44	1.227	3.88	.20	7.43	-70.9	clear	no
11:55	25	150	5.32	1.25	7.43	1.221	3.72	.10	10.25	-81.2	clear	no
12:00	30	150	5.32	1.5	7.44	1.225	3.08	.10	11.27	-79.8	clear	no
12:05	35	150	5.31	1.75	7.45	1.221	3.17	.09	11.46	-82.2	clear	no
12:10	40	150	5.32	2	7.45	1.223	3.12	.10	11.51	-85.1	clear	no
	45											
	50											

Constituents Sampled	Container	Number	Preservative
VOCs	40mL VOA	3	HCl
SVOCs	1L Amber	2	none
metals + Hardness (field filter)	250mL poly	1	HNO_3
metals + Hardness	250mL poly	1	HNO_3
Cr6+	250mL poly	1	none

Well Information

Well Location: ___ Well Locked at Arrival: (Yes) / No

Condition of Well: ___ Well Locked at Departure: (Yes) / No

Well Completion: Flush Mount / (Stick Up) Key Number To Well: 2342

NOTES:

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

ARCADIS

Groundwater Sampling Form

Page ___ of ___

Project No. ___ Well ID MW14 Date 12/16/20

Project Name/Location Nike Buffalo Weather ___

Measuring Pt. Description ___ Screen Setting (ft-bmp) 7' screen 4-11' Bgs Casing Diameter (in.) 2 Well Material X PVC ___ SS ___ Other

Total Depth (ft-bmp) 13.88 Static Water Level (ft-bmp) 5.11 ~~10.38~~ Water Column in Well ___ Gallons in Well ___

Calc. Gallons Purged ___ Pump Intake (ft-bmp) 10.38 Purge Method: Centrifugal ___ Submersible ___ Disp. Bailer ___ Other ___ Sample Method LOW FLOW

Gallons Purged 1.95 MP Elevation ___ Pump On/Off 11:10 / 12:10

Sample Time: Label ~~MW14~~ 12:00 Replicate/ Code No. ___ Sampled by JG

.1 3% 1 or 10% 10% or .1 3%

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (µmhos) ~~mS/cm~~	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox 10 (mV)	Appearance Color	Appearance Odor
11:15	5	145	5.19	~~MA~~.4	6.35	.711	12.7	.64	8.42	51.3	brown tint	no
11:20	10	145	5.18	.6	6.34	.702	8.69	.45	8.22	58.2	brown tint	no
11:25	15	145	5.18	.75	6.35	.699	9.27	.37	8.21	58.0	brown tint	no
11:30	20	145	5.19	.9	6.36	.695	5.40	.32	8.23	54.2	clear	no
11:35	25	145	5.19	1.15	6.38	.693	3.85	.32	~~88.2~~	48.3	clear	no
11:40	30	145	5.19	1.4	6.35	.695	3.82	.31	8.32	48.2	clear	no
11:45	35	145	5.19	1.6	6.34	.835	3.97	.23	8.82	31.7		
11:50	40											

Constituents Sampled	Container	Number	Preservative
VOCs	40mL VOA	3	HCl
SVOCs	1L Amber	2	none
metals + Hardness (Field Filter)	250mL poly	1	HNO_3
metals + Hardness (Lab Altered)	250mL poly	1	HNO_3
Cr6+	~~250~~ 125mL poly	1	none

Well Information

Well Location: ___ Well Locked at Arrival: (Yes) / No

Condition of Well: Good/New Well Locked at Departure: (Yes) / No

Well Completion: Flush Mount / (Stick Up) Key Number To Well: 2342

NOTES:

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

ARCADIS

Groundwater Sampling Form

Page ___ of ___

Project No. ___ Well ID MW-15 Date 12/17/20

Project Name/Location NIKE BU 51/52 Weather ___

Measuring Pt. Description TIC Screen Setting (ft-bmp) 4-11' Bgs Casing Diameter (in.) 2 Well Material X PVC ___ SS ___ Other

Total Depth (ft-bmp) 13.74 Static Water Level (ft-bmp) ~~5.32~~ ~~10.24~~ 5.42 Water Column in Well 8.42 Gallons in Well 1.37

Calc. Gallons Purged ___ Pump Intake (ft-bmp) 10.24' Purge Method: Centrifugal ___ Submersible ___ Sample Method Outflow

Gallons Purged 1.7 MP Elevation — Disp. Bailer ___ Pump On/Off 1535

Sample Time: Label 1615 Replicate/ Code No. ___ Other Peristaltic Sampled by JG

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (µmhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
				0.1	3%	1 or 10%	.1 or 10%	3%	10			
1540	5	150	5.32	.1	8.19	.379	7.32	4.90	7.24	17.9	brown tint	NO
1545	10	150	5.31	.5	7.97	.380	6.86	.67	6.88	6.9	brown tint	NO
1550	15	150	5.31	.75	7.83	.381	15.0	.38	7.07	-8.2		
1555	20	150	5.31	1	7.70	.381	8.03	.28	6.97	-82.7		
1600	25	150	5.31	1.2	7.72	.380	11.7	.22	7.04	-42.9		
1605	30	150	5.31	1.5	7.70	.380	11.7	.20	6.90	-52.9		
1610	35	150	5.31	1.7	7.72	.381	11.7	.21	6.98	-51.4		
1615	40											
1620	45											
	50											

Constituents Sampled	Container	Number	Preservative
VOCs	40mL VOA	3	HCl
SVOCs	1 L Amber	2	none
metals + Hardness (field filter)	250mL Poly	1	HNO_3
metals + Hardness	250mL poly	1	HNO_3
Cr6+	250 mL Poly	1	none

Well Information

Well Location: ___ Well Locked at Arrival: (Yes) / No

Condition of Well: Good/NW Well Locked at Departure: (Yes) / No

Well Completion: Flush Mount / (Stick Up) Key Number To Well: 2342

NOTES: ___

Well Casing Volumes

Gallons/Foot					
	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

ARCADIS

Groundwater Sampling Form

Page 1 of 1

Project No. 30027153 | Well ID MW-16 | Date 12/15/20

Project Name/Location Nike Bh 51/52 | Weather 27°F, light snow

Measuring Pt. Description TIC | Screen Setting (ft-bmp) – | Casing Diameter (in.) 2 | Well Material X PVC ___ SS ___ Other

Total Depth (ft-bmp) 23.55 | Static Water Level (ft-bmp) 16.52 | Water Column in Well 7.03 | Gallons in Well 1.145

Calc. Gallons Purged 1.98 | Pump Intake (ft-bmp) 20.05 | Purge Method: Centrifugal ___ Submersible ___ | Sample Method low flow

Gallons Purged 2.25 | MP Elevation – | Disp. Bailer ___ Other Peristaltic | Pump On/Off 1258

Sample Time: Label 1349 | Replicate/ Code No. ___ | Sampled by AG

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft) TOC	Gallons Purged	pH	Cond. (µmhos) (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temp. (°C) (°F)	Redox (mV)	Appearance Color	Appearance Odor
1303	5	150	16.78	0.198	6.52	4031	8.23	6.51	9.76	-128.5	yellow	none
1308	10	150	16.93	0.396	6.53	3820	4.12	3.30	10.55	-131.3	"	"
1313	15	150	17.07	0.594	6.57	3827	4.85	1.81	10.81	-165.4	"	"
1318	20	150	17.20	0.792	6.61	3829	5.50	0.36	11.30	-175.1	"	"
1323	25	150	17.43	0.99	6.62	3841	4.56	0.27	11.24	-173.1	"	"
1328	30	~~150~~ 150	17.68	1.188	6.63	3877	3.71	0.21	11.10	-171.2	"	"
1333	35	150	17.81	1.386	6.64	3885	3.48	0.20	11.09	-171.1	"	"
1338	40	150	18.12	1.584	6.65	3990	3.19	0.19	11.08	-170.2	"	"
1343	45	150	18.28	1.782	6.65	3995	3.10	0.17	11.07	-168.3	"	"
1348	50	150	18.38	1.98	6.65	3998	3.07	0.15	11.04	-165.0	"	"

Constituents Sampled	Container	Number	Preservative
VOCs	40mL VOA	3	HCl
SVOCs	1L Amber	2	None
Metals + Hardness (Field Filtered)	250mL Poly	1	HNO_3
Metals + Hardness, Total	250mL Poly	1	HNO_3
Cr 6+	125mL Poly	1	None

Well Information

Well Location: ___

Condition of Well: Good

Well Completion: Flush Mount / Stick Up

Well Locked at Arrival: Yes / No

Well Locked at Departure: Yes / No

Key Number To Well: 2342

NOTES:

Well Casing Volumes

Gallons/Foot: 1" = 0.04 | 1.25" = 0.06 | 1.5" = 0.09 | 2" = 0.16 | 2.5" = 0.26 | 3" = 0.37 | 3.5" = 0.50 | 4" = 0.65 | 6" = 1.47

Appendix H

Investigation-Derived Waste

Katahdin
ANALYTICAL SERVICES

NH ELAP Lab ID 2001 (DW, NPW, SCM)
NYSDOH ELAP Lab ID 11121 (AE - T015)

December 2, 2020

Ms. Jennifer Singer
Arcadis of New York, Inc.
50 Fountain Plaza
Suite 600
Buffalo,NY 14202

RE: Katahdin Lab Number: SN8671
Project ID: Nike BU 51/52 Hamburg, NY
Project Manager: Ms. Heather Manz
Sample Receipt Date(s): October 16, 2020

Dear Ms. Singer:

Please find enclosed the following information:

* Report of Analysis (Analytical and/or Field)
* Quality Control Data Summary
* Chain of Custody (COC)
* Login Report

A copy of the Chain of Custody is included in the paginated report. If requested, the original COC is attached as an addendum to this report.

Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact the project manager listed above. The results contained in this report relate only to the submitted samples. This cover letter is an integral part of the ROA.

We certify that the test results provided in this report meet all the requirements of the NELAC standards unless otherwise noted in an attached technical narrative or in the Report of Analysis.

We appreciate your continued use of our laboratory and look forward to working with you in the future. The following signature indicates technical review and acceptance of the data.

Please go to http://www.katahdinlab.com/cert for copies of Katahdin Analytical Services Inc. current certificates and analyte lists.

Sincerely,
KATAHDIN ANALYTICAL SERVICES

Leslie Dimond

Leslie Dimond - Quality Assurance Officer

12/02/2020

Date

NARRATIVE
KATAHDIN ANALYTICAL SERVICES
ARCADIS
NIKE BU 51/52 HAMBURG, NY
SN8671

Sample Receipt

The following samples were received on October 16, 2020 and were logged in under Katahdin Analytical Services work order number SN8671 for a hardcopy due date of November 04, 2020.

KATAHDIN Sample No.	ARCADIS Sample Identification
SN8671-1	NHFLA-WC-SOIL-OCT2020
SN8671-2	NHFLA-WC-WATER-OCT2020

The samples were logged in for the analyses specified on the chain of custody form. All problems encountered and resolved during sample receipt have been documented on the applicable chain of custody forms.

We certify that the test results provided in this report meet all the requirements of the NELAP standards unless otherwise noted in this narrative or in the Report of Analysis.

We certify that the test results provided in this report are accredited under the laboratory's ISO/IEC 17025:2005 and DoD-ELAP accreditation issued by the ANSI-ASQ National Accreditation Board. Refer to certificate and scope of accreditation L2223.

Analytes which are reported but not listed on our ANAB scope of accreditation will be "^" flagged and the following language will be included in the case narrative for all DoD compliant work: "^" Indicates this analyte is not included on Katahdin Analytical Services DoD-ELAP Scope of Accreditation.

Sample analyses have been performed by the methods as noted herein.

Should you have any questions or comments concerning this Report of Analysis, please do not hesitate to contact your Katahdin Analytical Services Project Manager, **Ms. Heather Manz**. This narrative is an integral part of the Report of Analysis.

Organics Analysis

The samples of Work Order #SN8671 were analyzed in accordance with Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA publication SW-846, Third Edition, Final Updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), and V (2015), and/or for the specific methods listed below or on the Report of Analysis.

8260C TCLP Analysis

Method 1311 uses a sample aliquot of 25g for TCLP extraction of volatile compounds. Katahdin utilized a 10g sample aliquot for this analysis.

8270D TCLP Analysis

Samples SN8671-1 and 2 as well as the laboratory method blank WG288596-1 had low recoveries for one or two surrogates that were outside of the DoD QSM acceptance limits. The client was contacted on 10/26/20 regarding the surrogate deviations and the laboratory was advised to proceed with narration.

The independent check standard associated with the initial calibration on 10/16/2020 had a high concentration for the target analyte pentachlorophenol that exceeded the DoD QSM acceptance limit of ±20% of the expected value from the ICAL.

8081B TCLP Analysis

There were no protocol deviations or observation noted by the organics laboratory staff for this analysis.

8082A Analysis

Sample SN8671-1 was analyzed at a dilution of 1:5 due to matrix interference, sample viscosity or other matrix-related problem. Consequently, the sample PQL's was elevated by a factor of 5.

Sample SN8671-2 had low recoveries for the extraction surrogates TCX and DCB that were outside of the laboratory established acceptance limits. Based a notation in the extraction prep logbook about an emulsion occurring during the extraction, the deviations are likely attributable to a matrix effect. Therefore, no further action was taken.

8151A TCLP Analysis

There were no protocol deviations or observations noted by the organics laboratory staff for this analysis.

Metals Analysis

The samples of Katahdin Work Order SN8671 were prepared and analyzed for metals in accordance with Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA publication SW-846, Third Edition, Final Updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), and V (2015), Office of Solid Waste and Emergency Response, U.S. EPA.

TCLP Extraction (EPA Method 1311)

Katahdin Sample Numbers SN8671-1 is a solid sample that was subjected to TCLP extraction on 10/19/20 in accordance with USEPA Method 1311.

TCLP Fluid Blank PBT1659A is an aqueous sample that was subjected to TCLP extraction on 10/19/20 in accordance with USEPA Method 1311. This blank is associated with Katahdin Sample Number SN8671-1. The detected concentrations of barium (20.2 ug/L) and lead (3.363 ug/L)in this fluid blank are above laboratory acceptance criteria. Because the fluid blank and associated samples are well below regulatory limits, no action was taken.

The measured concentrations of contaminants in TCLP fluid blanks are listed in the Form 3P in the accompanying data package.

Inductively-Coupled Plasma Atomic Emission Spectroscopic Analysis (ICP)

Aqueous-matrix Katahdin Sample Number SN8671-(1-2) were digested for ICP analysis on 11/06/20 (QC Batch NK06ICW2) in accordance with USEPA Method 3010A. The laboratory control sample associated with this batch, LCSWNK06ICW2, was outside of acceptance criteria for lead. All associated samples were less than one half the PQL, so were accepted without action.

Aqueous-matrix TCLP fluid blank extract PBT1659A was digested for ICP analysis on 10/20/20 (QC Batch NJ20ICW1) in accordance with USEPA Method 3010A.

ICP analyses of Katahdin Work Order SN8671 sample digestates were performed using a Thermo iCAP 6500 ICP spectrometer in accordance with USEPA Method 6010C. All samples were analyzed within holding times and all analytical run QC criteria were met with the following exception;

CCB run at 20:09 in analytical batch INJ20B was outside the acceptance criteria for selenium. Because all associated samples were either above ten times the failed value or below one-half the PQL, they were accepted without corrective action.

Analysis of Mercury by Cold Vapor Atomic Absorption (CVAA)

Aqueous-matrix Katahdin Sample Numbers SN8671-(1-2) were digested for mercury analysis on 10/23/20 (QC Batch NJ23HGW1) in accordance with USEPA Method 7470A. This batch was prepared with duplicate laboratory control samples.

Aqueous-matrix TCLP fluid blank extract PBT1659A was digested for mercury analysis on 10/20/20 (QC Batch NJ20HGW1) in accordance with USEPA Method 7470A. All samples were analyzed within holding times and all analytical run QC criteria were met

Mercury analyses of the Katahdin Work Order SN8671 sample digestates were performed using a Cetac M6100 automated mercury analyzer in accordance with USEPA Methods 7470A. All samples were analyzed within holding times and all analytical run QC criteria were met.

Reporting of Metals Results

Per client request, analytical results for client samples on Form I and preparation blanks on Form IIIP have been reported using the laboratory's limits of detection (LOD). All results were evaluated down to the laboratory's method detection limits (MDLs). Results that fall between the MDL and the LOQ are

flagged with "J" in the C-qualifier column, and the measured concentration appears in the concentration column. Results that are less than the MDL are flagged with "U" in the C-qualifier column, and the LOD is listed in the concentration column. These LOQs, MDLs and LODs have been adjusted for each sample based on the sample amounts used in preparation and analysis.

Analytical results on Forms VA, VD, VII, and IX for client samples, matrix QC samples (duplicates and matrix spikes), and laboratory control samples have been reported down to the laboratory's method detection limits (MDLs). Analytical results that are below the MDLs are flagged with "U" in the C-qualifier column, and the measured concentration is listed in the concentration column.

Analytical results for instrument run QC samples (ICVs, ICBs, etc.) have been reported down to the laboratory's instrument detection limits (IDLs).

IDLs, LODs, MDLs, and LOQs are listed on Form 10 of the accompanying data package.

Wet Chemistry Analysis

The samples of Work Order SN8671 were analyzed in accordance with the specific methods listed on the Report of Analysis.

Analyses for reactive cyanide, ignitability, reactive sulfide, Ph, and total solids were performed according to "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA publication SW-846, Third Edition, Final Updates I (1993), II (1995), IIA (1994), IIB (1995), III (1997), IIIA (1999), IIIB (2005), IV (2008), and V (2015).

All Wet Chemistry results were evaluated to Katahdin Analytical Services' Method Detection Limits (MDL). Measured concentrations that fall between the MDL and Katahdin's Limit of Quantitation (LOQ) are flagged "J". Measured concentrations that are below the MDL are flagged "U" and reported as "U LOD", where "LOD" is the numerical value of the Limit of Detection.

All analyses were performed within analytical holding times, and all quality control criteria were met.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Quality Assurance Officer, or their designee, as verified by the following signature.

Leslie Dimond 12.3.20

Leslie Dimond
Quality Assurance Officer

KATAHDIN ANALYTICAL SERVICES - ORGANIC DATA QUALIFIERS

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U — Indicates the compound was analyzed for but not detected above the specified level. This level may be the Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL, "U" LOQ or "U" LOD, where the rate of false negatives is <1%.

* — Compound recovery or percent RPD (relative percent difference) was outside of quality control limits.

D — Indicates the result was obtained from analysis of a diluted sample. Surrogate recoveries may not be calculable.

E — Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J — Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), but above the Method Detection Limit (MDL).

or

J — Used for Pesticides, PCBs, Herbicides, Formaldehyde, Explosives and Method 504.1 analytes when there is a greater than 40% difference for detected concentrations between the two GC columns.

B — Indicates the analyte was detected in the laboratory method blank analyzed concurrently with the sample.

C — Indicates that the flagged compound did not meet DoD criteria in the corresponding daily calibration verification (CV).

L — Indicates that the flagged compound did not meet DoD criteria in the corresponding Laboratory Control Sample (LCS) and/or Laboratory Control Sample Duplicate (LCSD) prepared and/or analyzed concurrently with the sample.

M — Indicates that the flagged compound did not meet DoD criteria in the Matrix Spike and/or Matrix Spike Duplicate prepared and/or analyzed concurrently with the native sample.

N — Presumptive evidence of a compound based on a mass spectral library search.

A — Indicates that a tentatively identified compound is a suspected aldol-condensation product.

P — Used for Pesticide/Aroclor analyte when there is a greater than 25% difference for detected concentrations between the two GC columns. (for CLP methods only).

KATAHDIN ANALYTICAL SERVICES – INORGANIC DATA QUALIFIERS

The sampled date indicated on the attached Report(s) of Analysis (ROA) is the date for which a grab sample was collected or the date for which a composite sample was completed. Beginning and start times for composite samples can be found on the Chain-of-Custody.

U Indicates the compound was analyzed for but not detected above the specified level. This level may be the Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), the Limit of Detection (LOD) or Method Detection Limit (MDL) as required by the client.

Note: All results reported as "U" MDL have a 50% rate for false negatives compared to those results reported as "U" PQL "U" LOQ or "U" LOD, where the rate of false negatives is <1%.

E Estimated value. This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis.

J Estimated value. The analyte was detected in the sample at a concentration less than the laboratory Practical Quantitation Level (PQL) (also called Limit of Quantitation (LOQ)), but above the Method Detection Limit (MDL).

I-7 The laboratory's Practical Quantitation Level (PQL) or LOQ could not be achieved for this parameter due to sample composition, matrix effects, sample volume, or quantity used for analysis.

A-4 Please refer to cover letter or narrative for further information.

H_ Please note that the regulatory holding time for _____ is "analyze immediately". Ideally, this analysis must be performed in the field at the time of sample collection. _____ for this sample was not performed at the time of sample collection. The analysis was performed as soon as possible after receipt by the laboratory.

H1 - pH H2 - DO H3 - sulfite H4 - residual chlorine

T1 The client did not provide the full volume of at least one liter for analysis of TSS. Therefore, the PQL of 2.5 mg/L could not be achieved.

T2 The client provided the required volume of at least one liter for analysis of TSS, but the laboratory could not filter the full one liter volume due to the sample matrix. Therefore, the PQL of 2.5 mg/L could not be achieved.

M1 The matrix spike and/or matrix spike duplicate recovery performed on this sample was outside of the laboratory acceptance criteria. Sample matrix is suspected. The laboratory criteria was met for the Laboratory Control Sample (LCS) analyzed concurrently with this sample.

M2 The matrix spike and/or matrix spike duplicate recovery was outside of the laboratory acceptance criteria. The native sample concentration is greater than four times the spike added concentration so the spike added could not be distinguished from the native sample concentration.

R1 The relative percent difference (RPD) between the duplicate analyses performed on this sample was outside of the laboratory acceptance criteria (when both values are greater than ten times the PQL).

MCL	Maximum Contaminant Level	NL	No limit
NFL	No Free Liquid Present	FLP	Free Liquid Present
NOD	No Odor Detected	TON	Threshold Odor Number

D-1 As required by Method 5210B, APHA Standard Methods for the Examination of Water and Wastewater (21st edition), the BOD value reported for this sample is 'qualified' because the check standard run concurrently with the sample analysis did not meet the criteria specified in the method (198 +/- 30.5 mg/L). These results may not be reportable for compliance purposes.

D-2 The measured final dissolved oxygen concentrations of all dilutions were less than the method-specified limit of 1 mg/L. The reported BOD result was calculated assuming a final oxygen concentration equal to 1 mg/L. The reported value should be considered a minimum value.

D-3 The dilution water used to prepare this sample did not meet the method and/or regulatory criteria of less than 0.2 or 0.4 mg/L dissolved oxygen (DO) uptake over the five day period of incubation. These results may not be reportable for compliance purposes.

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: SN8671-1DL
Client ID: NHFLA-WC-SOIL-OCT2020
Project: Nike BU 51/52 Hamburg, NY
SDG: SN8671
Lab File ID: T8574.D

Sample Date: 15-OCT-20
Received Date: 16-OCT-20
Extract Date: 26-OCT-20
Extracted By: CR
Extraction Method: 5030/1311
Lab Prep Batch: WG288899

Analysis Date: 26-OCT-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: 87.
Report Date: 03-NOV-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Benzene	U	10	ug/L	20	5	100	5.2	10.
Carbon Tetrachloride	U	10	ug/L	20	5	100	4.4	10.
Chlorobenzene	U	10	ug/L	20	5	100	4.4	10.
Chloroform	U	10	ug/L	20	5	100	6.4	10.
1,2-Dichloroethane	U	10	ug/L	20	5	100	4.0	10.
1,1-Dichloroethene	U	10	ug/L	20	5	100	7.0	10.
2-Butanone	U	50	ug/L	20	15	300	26.	50.
Tetrachloroethene	U	10	ug/L	20	5	100	8.0	10.
Trichloroethene	J	42	ug/L	20	5	100	5.6	10.
Vinyl Chloride	U	20	ug/L	20	5	100	5.0	20.
1,2-Dichloroethane-D4		105.	%					
Toluene-D8		101.	%					
p-Bromofluorobenzene		105.	%					
Dibromofluoromethane		104.	%					

600 Technology Way
P.O. Box 540, Scarborough, ME 04070
Tel:(207) 874-2400 Fax:(207) 775-4029
http://www.katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: SN8671-2DL
Client ID: NHFLA-WC-WATER-OCT2020
Project: Nike BU 51/52 Hamburg, NY
SDG: SN8671
Lab File ID: T8575.D

Sample Date: 15-OCT-20
Received Date: 16-OCT-20
Extract Date: 26-OCT-20
Extracted By: CR
Extraction Method: 5030/1311
Lab Prep Batch: WG288899

Analysis Date: 26-OCT-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 03-NOV-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Benzene	U	10	ug/L	20	5	100	5.2	10.
Carbon Tetrachloride	U	10	ug/L	20	5	100	4.4	10.
Chlorobenzene	U	10	ug/L	20	5	100	4.4	10.
Chloroform	U	10	ug/L	20	5	100	6.4	10.
1,2-Dichloroethane	U	10	ug/L	20	5	100	4.0	10.
1,1-Dichloroethene	U	10	ug/L	20	5	100	7.0	10.
2-Butanone	U	50	ug/L	20	15	300	26.	50.
Tetrachloroethene	U	10	ug/L	20	5	100	8.0	10.
Trichloroethene	U	10	ug/L	20	5	100	5.6	10.
Vinyl Chloride	U	20	ug/L	20	5	100	5.0	20.
1,2-Dichloroethane-D4		110.	%					
Toluene-D8		99.4	%					
p-Bromofluorobenzene		107.	%					
Dibromofluoromethane		104.	%					

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Form 4
Method Blank Summary - VOA

Lab Name : Katahdin Analytical Services
Project : Nike BU 51/52 Hamburg, NY
Lab File ID : T8561.D
Instrument ID : GCMS-T
Heated Purge : Yes

SDG : SN8671
Lab Sample ID : WG288899-2
Date Analyzed : 26-OCT-20
Time Analyzed : 11:13

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG288899-1	T8558.D	10/26/20	09:38
TCLP Blank	WG288899-8	T8563.D	10/26/20	12:15
NHFLA-WC-SOIL-OCT2020	SN8671-1DL	T8574.D	10/26/20	17:52
NHFLA-WC-WATER-OCT2020	SN8671-2DL	T8575.D	10/26/20	18:23

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http://katahdinlab.com
sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG288899-2
Client ID: Method Blank Sample
Project:
SDG: SN8671
Lab File ID: T8561.D

Sample Date:
Received Date:
Extract Date: 26-OCT-20
Extracted By: CR
Extraction Method: SW846 5030
Lab Prep Batch: WG288899

Analysis Date: 26-OCT-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 03-NOV-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Benzene	U	0.50	ug/L	1	5	5.0	0.26	0.50
Carbon Tetrachloride	U	0.50	ug/L	1	5	5.0	0.22	0.50
Chlorobenzene	U	0.50	ug/L	1	5	5.0	0.22	0.50
Chloroform	U	0.50	ug/L	1	5	5.0	0.32	0.50
1,2-Dichloroethane	U	0.50	ug/L	1	5	5.0	0.20	0.50
1,1-Dichloroethene	U	0.50	ug/L	1	5	5.0	0.35	0.50
2-Butanone	U	2.5	ug/L	1	15	15.	1.3	2.5
Tetrachloroethene	U	0.50	ug/L	1	5	5.0	0.40	0.50
Trichloroethene	U	0.50	ug/L	1	5	5.0	0.28	0.50
Vinyl Chloride	U	1.0	ug/L	1	5	5.0	0.25	1.0
1,2-Dichloroethane-D4		97.8	%					
Toluene-D8		100.	%					
p-Bromofluorobenzene		106.	%					
Dibromofluoromethane		98.8	%					

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Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG288899-8
Client ID: TCLP Blank
Project:
SDG: SN8671
Lab File ID: T8563.D

Sample Date:
Received Date:
Extract Date: 26-OCT-20
Extracted By: CR
Extraction Method: 5030/1311
Lab Prep Batch: WG288899

Analysis Date: 26-OCT-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 03-NOV-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Benzene	U	10	ug/L	20	5	100	5.2	10.
Carbon Tetrachloride	U	10	ug/L	20	5	100	4.4	10.
Chlorobenzene	U	10	ug/L	20	5	100	4.4	10.
Chloroform	U	10	ug/L	20	5	100	6.4	10.
1,2-Dichloroethane	U	10	ug/L	20	5	100	4.0	10.
1,1-Dichloroethene	U	10	ug/L	20	5	100	7.0	10.
2-Butanone	U	50	ug/L	20	15	300	26.	50.
Tetrachloroethene	U	10	ug/L	20	5	100	8.0	10.
Trichloroethene	U	10	ug/L	20	5	100	5.6	10.
Vinyl Chloride	U	20	ug/L	20	5	100	5.0	20.
1,2-Dichloroethane-D4		106.	%					
Toluene-D8		103.	%					
p-Bromofluorobenzene		109.	%					
Dibromofluoromethane		102.	%					

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LCS Recovery Report

Client:
Lab ID: WG288899-1
Client ID: LCS
Project:
SDG: SN8671
LCS File ID: T8558.D

Sample Date:
Received Date:
Extract Date: 26-OCT-20
Extracted By: CR
Extraction Method: SW846 5030
Lab Prep Batch: WG288899

Analysis Date: 26-OCT-20
Analyst: CR
Analysis Method: SW846 8260C
Matrix: AQ
% Solids: NA
Report Date: 03-NOV-20

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Benzene	107.	50.0	53.3	ug/L	79-120
Carbon Tetrachloride	101.	50.0	50.3	ug/L	72-136
Chlorobenzene	105.	50.0	52.7	ug/L	82-118
Chloroform	96.6	50.0	48.3	ug/L	79-124
1,2-Dichloroethane	97.8	50.0	48.9	ug/L	73-128
1,1-Dichloroethene	90.0	50.0	45.0	ug/L	71-131
2-Butanone	95.0	50.0	47.5	ug/L	56-143
Tetrachloroethene	104.	50.0	52.1	ug/L	74-129
Trichloroethene	107.	50.0	53.6	ug/L	79-123
Vinyl Chloride	99.2	50.0	49.6	ug/L	58-137
1,2-Dichloroethane-D4	92.1				81-118
Toluene-D8	99.7				89-112
p-Bromofluorobenzene	106.				85-114
Dibromofluoromethane	94.8				80-119

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Report of Analytical Results

Client: ARCADIS
Lab ID: SN8671-1
Client ID: NHFLA-WC-SOIL-OCT2020
Project: Nike BU 51/52 Hamburg, NY
SDG: SN8671
Lab File ID: U2329.D

Sample Date: 15-OCT-20
Received Date: 16-OCT-20
Extract Date: 21-OCT-20
Extracted By: SR/MP
Extraction Method: 3510C/1311
Lab Prep Batch: WG288596

Analysis Date: 21-OCT-20
Analyst: JCG
Analysis Method: SW846 8270D
Matrix: AQ
% Solids: NA
Report Date: 29-OCT-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Pyridine	U	190	ug/L	1	50	250	7.5	190
1,4-Dichlorobenzene	U	38	ug/L	1	10	50.	11.	38.
2-Methylphenol	U	38	ug/L	1	10	50.	19.	38.
3&4-Methylphenol	U	38	ug/L	1	10	50.	28.	38.
Hexachloroethane	U	38	ug/L	1	10	50.	12.	38.
Nitrobenzene	U	38	ug/L	1	10	50.	16.	38.
Hexachlorobutadiene	U	38	ug/L	1	10	50.	9.0	38.
2,4,6-Trichlorophenol	U	38	ug/L	1	10	50.	14.	38.
2,4,5-Trichlorophenol	U	94	ug/L	1	25	120	18.	94.
2,4-Dinitrotoluene	U	38	ug/L	1	10	50.	11.	38.
Hexachlorobenzene	U	38	ug/L	1	10	50.	10.	38.
Pentachlorophenol	U	94	ug/L	1	25	120	12.	94.
2-Fluorophenol		31.7	%					
Phenol-D6		15.9	%					
Nitrobenzene-D5	*	43.3	%					
2-Fluorobiphenyl		48.4	%					
2,4,6-Tribromophenol	*	39.0	%					
Terphenyl-D14		69.7	%					

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Report of Analytical Results

Client: ARCADIS
Lab ID: SN8671-2
Client ID: NHFLA-WC-WATER-OCT2020
Project: Nike BU 51/52 Hamburg, NY
SDG: SN8671
Lab File ID: U2322.D

Sample Date: 15-OCT-20
Received Date: 16-OCT-20
Extract Date: 20-OCT-20
Extracted By: SR/MP
Extraction Method: 3510C/1311
Lab Prep Batch: WG288520

Analysis Date: 21-OCT-20
Analyst: JCG
Analysis Method: SW846 8270D
Matrix: AQ
% Solids: NA
Report Date: 29-OCT-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Pyridine	U	190	ug/L	1	50	250	7.5	190
1,4-Dichlorobenzene	U	38	ug/L	1	10	50.	11.	38.
2-Methylphenol	U	38	ug/L	1	10	50.	19.	38.
3&4-Methylphenol	U	38	ug/L	1	10	50.	28.	38.
Hexachloroethane	U	38	ug/L	1	10	50.	12.	38.
Nitrobenzene	U	38	ug/L	1	10	50.	16.	38.
Hexachlorobutadiene	U	38	ug/L	1	10	50.	9.0	38.
2,4,6-Trichlorophenol	U	38	ug/L	1	10	50.	14.	38.
2,4,5-Trichlorophenol	U	94	ug/L	1	25	120	18.	94.
2,4-Dinitrotoluene	U	38	ug/L	1	10	50.	11.	38.
Hexachlorobenzene	U	38	ug/L	1	10	50.	10.	38.
Pentachlorophenol	U	94	ug/L	1	25	120	12.	94.
2-Fluorophenol		26.4	%					
Phenol-D6		20.3	%					
Nitrobenzene-D5		75.6	%					
2-Fluorobiphenyl		71.2	%					
2,4,6-Tribromophenol	*	35.9	%					
Terphenyl-D14		95.2	%					

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Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : Nike BU 51/52 Hamburg, NY
Lab File ID : U2316.D
Instrument ID : GCMS-U
Matrix : AQ

SDG : SN8671
Lab Sample ID : WG288520-1RA
Date Extracted : 20-OCT-20
Date Analyzed : 21-OCT-20
Time Analyzed : 11:55

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG288520-2RA	U2317.D	10/21/20	12:26
NHFLA-WC-WATER-OCT2020	SN8671-2	U2322.D	10/21/20	15:03

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Report of Analytical Results

Client:
Lab ID: WG288520-1RA
Client ID: Method Blank Sample
Project:
SDG: SN8671
Lab File ID: U2316.D

Sample Date:
Received Date:
Extract Date: 20-OCT-20
Extracted By: SR/MP
Extraction Method: SW846 3510C
Lab Prep Batch: WG288520

Analysis Date: 21-OCT-20
Analyst: JCG
Analysis Method: SW846 8270D
Matrix: AQ
% Solids: NA
Report Date: 29-OCT-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Pyridine	U	38	ug/L	1	50	50.	1.5	38.
1,4-Dichlorobenzene	U	7.5	ug/L	1	10	10.	2.2	7.5
2-Methylphenol	U	7.5	ug/L	1	10	10.	3.8	7.5
3&4-Methylphenol	U	7.5	ug/L	1	10	10.	5.6	7.5
Hexachloroethane	U	7.5	ug/L	1	10	10.	2.3	7.5
Nitrobenzene	U	7.5	ug/L	1	10	10.	3.1	7.5
Hexachlorobutadiene	U	7.5	ug/L	1	10	10.	1.8	7.5
2,4,6-Trichlorophenol	U	7.5	ug/L	1	10	10.	2.7	7.5
2,4,5-Trichlorophenol	U	19	ug/L	1	25	25.	3.6	19.
2,4-Dinitrotoluene	U	7.5	ug/L	1	10	10.	2.2	7.5
Hexachlorobenzene	U	7.5	ug/L	1	10	10.	2.1	7.5
Pentachlorophenol	U	19	ug/L	1	25	25.	2.3	19.
2-Fluorophenol		33.5	%					
Phenol-D6		21.1	%					
Nitrobenzene-D5		75.7	%					
2-Fluorobiphenyl		72.2	%					
2,4,6-Tribromophenol		53.2	%					
Terphenyl-D14		103.	%					

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LCS Recovery Report

Client:
Lab ID: WG288520-2RA
Client ID: LCS
Project:
SDG: SN8671
LCS File ID: U2317.D

Sample Date:
Received Date:
Extract Date: 20-OCT-20
Extracted By: SR/MP
Extraction Method: SW846 3510C
Lab Prep Batch: WG288520

Analysis Date: 21-OCT-20
Analyst: JCG
Analysis Method: SW846 8270D
Matrix: AQ
% Solids: NA
Report Date: 29-OCT-20

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Pyridine	19.6	50.0	9.81	ug/L	10-96
1,4-Dichlorobenzene	57.0	50.0	28.5	ug/L	29-112
2-Methylphenol	44.2	100.	44.2	ug/L	30-117
3&4-Methylphenol	41.5	100.	41.5	ug/L	29-110
Hexachloroethane	55.8	50.0	27.9	ug/L	21-115
Nitrobenzene	60.8	50.0	30.4	ug/L	45-121
Hexachlorobutadiene	54.8	50.0	27.4	ug/L	22-124
2,4,6-Trichlorophenol	64.0	100.	64.0	ug/L	50-125
2,4,5-Trichlorophenol	63.7	100.	63.7	ug/L	53-123
2,4-Dinitrotoluene	62.2	50.0	31.1	ug/L	57-128
Hexachlorobenzene	70.2	50.0	35.1	ug/L	53-125
Pentachlorophenol	73.6	100.	73.6	ug/L	35-138
2-Fluorophenol	37.1				19-119
Phenol-D6	23.3				10-90
Nitrobenzene-D5	62.4				44-120
2-Fluorobiphenyl	65.3				44-119
2,4,6-Tribromophenol	64.0				43-140
Terphenyl-D14	74.1				50-134

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Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : Nike BU 51/52 Hamburg, NY
Lab File ID : U2323.D
Instrument ID : GCMS-U
Matrix : AQ

SDG : SN8671
Lab Sample ID : WG288596-1
Date Extracted : 21-OCT-20
Date Analyzed : 21-OCT-20
Time Analyzed : 15:34

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
TCLP Blank	WG288596-3	U2324.D	10/21/20	16:05
Laboratory Control S	WG288596-2	U2325.D	10/21/20	16:37
NHFLA-WC-SOIL-OCT2020	SN8671-1	U2329.D	10/21/20	18:45

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Report of Analytical Results

Client:
Lab ID: WG288596-1
Client ID: Method Blank Sample
Project:
SDG: SN8671
Lab File ID: U2323.D

Sample Date:
Received Date:
Extract Date: 21-OCT-20
Extracted By: SR/MP
Extraction Method: SW846 3510C
Lab Prep Batch: WG288596

Analysis Date: 21-OCT-20
Analyst: JCG
Analysis Method: SW846 8270D
Matrix: AQ
% Solids: NA
Report Date: 29-OCT-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Pyridine	U	38	ug/L	1	50	50.	1.5	38.
1,4-Dichlorobenzene	U	7.5	ug/L	1	10	10.	2.2	7.5
2-Methylphenol	U	7.5	ug/L	1	10	10.	3.8	7.5
3&4-Methylphenol	U	7.5	ug/L	1	10	10.	5.6	7.5
Hexachloroethane	U	7.5	ug/L	1	10	10.	2.3	7.5
Nitrobenzene	U	7.5	ug/L	1	10	10.	3.1	7.5
Hexachlorobutadiene	U	7.5	ug/L	1	10	10.	1.8	7.5
2,4,6-Trichlorophenol	U	7.5	ug/L	1	10	10.	2.7	7.5
2,4,5-Trichlorophenol	U	19	ug/L	1	25	25.	3.6	19.
2,4-Dinitrotoluene	U	7.5	ug/L	1	10	10.	2.2	7.5
Hexachlorobenzene	U	7.5	ug/L	1	10	10.	2.1	7.5
Pentachlorophenol	U	19	ug/L	1	25	25.	2.3	19.
2-Fluorophenol	*	14.4	%					
Phenol-D6		11.8	%					
Nitrobenzene-D5		72.0	%					
2-Fluorobiphenyl		73.9	%					
2,4,6-Tribromophenol	*	17.2	%					
Terphenyl-D14		89.4	%					

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Report of Analytical Results

Client:
Lab ID: WG288596-3
Client ID: TCLP Blank
Project:
SDG: SN8671
Lab File ID: U2324.D

Sample Date:
Received Date:
Extract Date: 21-OCT-20
Extracted By: SR/MP
Extraction Method: 3510C/1311
Lab Prep Batch: WG288596

Analysis Date: 21-OCT-20
Analyst: JCG
Analysis Method: SW846 8270D
Matrix: AQ
% Solids: NA
Report Date: 29-OCT-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Pyridine	U	190	ug/L	1	50	250	7.5	190
1,4-Dichlorobenzene	U	38	ug/L	1	10	50.	11.	38.
2-Methylphenol	U	38	ug/L	1	10	50.	19.	38.
3&4-Methylphenol	U	38	ug/L	1	10	50.	28.	38.
Hexachloroethane	U	38	ug/L	1	10	50.	12.	38.
Nitrobenzene	U	38	ug/L	1	10	50.	16.	38.
Hexachlorobutadiene	U	38	ug/L	1	10	50.	9.0	38.
2,4,6-Trichlorophenol	U	38	ug/L	1	10	50.	14.	38.
2,4,5-Trichlorophenol	U	94	ug/L	1	25	120	18.	94.
2,4-Dinitrotoluene	U	38	ug/L	1	10	50.	11.	38.
Hexachlorobenzene	U	38	ug/L	1	10	50.	10.	38.
Pentachlorophenol	U	94	ug/L	1	25	120	12.	94.
2-Fluorophenol		37.7	%					
Phenol-D6		21.5	%					
Nitrobenzene-D5		67.5	%					
2-Fluorobiphenyl		72.0	%					
2,4,6-Tribromophenol		47.5	%					
Terphenyl-D14		56.6	%					

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LCS Recovery Report

Client:
Lab ID: WG288596-2
Client ID: LCS
Project:
SDG: SN8671
LCS File ID: U2325.D

Sample Date:
Received Date:
Extract Date: 21-OCT-20
Extracted By: SR/MP
Extraction Method: SW846 3510C
Lab Prep Batch: WG288596

Analysis Date: 21-OCT-20
Analyst: JCG
Analysis Method: SW846 8270D
Matrix: AQ
% Solids: NA
Report Date: 29-OCT-20

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Pyridine	10.2	50.0	5.08	ug/L	10-96
1,4-Dichlorobenzene	61.6	50.0	30.8	ug/L	29-112
2-Methylphenol	45.6	100.	45.6	ug/L	30-117
3&4-Methylphenol	41.0	100.	41.0	ug/L	29-110
Hexachloroethane	62.4	50.0	31.2	ug/L	21-115
Nitrobenzene	64.2	50.0	32.1	ug/L	45-121
Hexachlorobutadiene	59.4	50.0	29.7	ug/L	22-124
2,4,6-Trichlorophenol	68.2	100.	68.2	ug/L	50-125
2,4,5-Trichlorophenol	67.6	100.	67.6	ug/L	53-123
2,4-Dinitrotoluene	68.6	50.0	34.3	ug/L	57-128
Hexachlorobenzene	75.4	50.0	37.7	ug/L	53-125
Pentachlorophenol	82.6	100.	82.6	ug/L	35-138
2-Fluorophenol	34.3				19-119
Phenol-D6	19.0				10-90
Nitrobenzene-D5	64.6				44-120
2-Fluorobiphenyl	66.1				44-119
2,4,6-Tribromophenol	70.3				43-140
Terphenyl-D14	78.4				50-134

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Report of Analytical Results

Client: ARCADIS
Lab ID: SN8671-1RE
Client ID: NHFLA-WC-SOIL-OCT2020
Project: Nike BU 51/52 Hamburg, NY
SDG: SN8671
Lab File ID: 8NJ00261.D

Sample Date: 15-OCT-20
Received Date: 16-OCT-20
Extract Date: 26-OCT-20
Extracted By: MP
Extraction Method: 3510C/1311
Lab Prep Batch: WG288904

Analysis Date: 27-OCT-20
Analyst: BF
Analysis Method: SW846 8151A
Matrix: AQ
% Solids: 87.
Report Date: 10-NOV-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
2,4-D	U	7.0	ug/L	1	3	14.	1.4	7.0
Silvex	U	7.1	ug/L	1	3	14.	0.95	7.1
2,4-Dichlorophenylacetic Acid		81.6	%					

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Report of Analytical Results

Client: ARCADIS
Lab ID: SN8671-2
Client ID: NHFLA-WC-WATER-OCT2020
Project: Nike BU 51/52 Hamburg, NY
SDG: SN8671
Lab File ID: 8NJ00252.D

Sample Date: 15-OCT-20
Received Date: 16-OCT-20
Extract Date: 21-OCT-20
Extracted By: SR/MP
Extraction Method: 3510C/1311
Lab Prep Batch: WG288601

Analysis Date: 23-OCT-20
Analyst: BF
Analysis Method: SW846 8151A
Matrix: AQ
% Solids: NA
Report Date: 10-NOV-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
2,4-D	U	7.0	ug/L	1	3	14.	1.4	7.0
Silvex	U	7.1	ug/L	1	3	14.	0.95	7.1
2,4-Dichlorophenylacetic Acid		72.8	%					

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Form 4
Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : Nike BU 51/52 Hamburg, NY
Lab File ID : 8NJ00244.D
Matrix : AQ

Column A
Instrument ID : GC08
Date Analyzed : 22-OCT-20
Time Analyzed : 21:26

SDG : SN8671
Lab Sample ID : WG288601-1
Date Extracted : 21-OCT-20
Extraction Method : SW846 3510C

Column B
Instrument ID : GC08
Date Analyzed : 22-OCT-20
Time Analyzed : 21:26

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG288601-2	8NJ00245.I	10/22/20	21:49
NHFLA-WC-WATER-OCT2020	SN8671-2	8NJ00252.I	10/23/20	00:32

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Report of Analytical Results

Client:
Lab ID: WG288601-1
Client ID: Method Blank Sample
Project:
SDG: SN8671
Lab File ID: 8NJ00244.D

Sample Date:
Received Date:
Extract Date: 21-OCT-20
Extracted By: SR/MP
Extraction Method: SW846 3510C
Lab Prep Batch: WG288601

Analysis Date: 22-OCT-20
Analyst: BF
Analysis Method: SW846 8151A
Matrix: AQ
% Solids: NA
Report Date: 10-NOV-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
2,4-D	U	1.4	ug/L	1	3	2.8	0.28	1.4
Silvex	U	1.4	ug/L	1	3	2.8	0.19	1.4
2,4-Dichlorophenylacetic Acid		68.2	%					

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ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG288601-2
Client ID: LCS
Project:
SDG: SN8671
LCS File ID: 8NJ00245.D

Sample Date:
Received Date:
Extract Date: 21-OCT-20
Extracted By: SR/MP
Extraction Method: SW846 3510C
Lab Prep Batch: WG288601

Analysis Date: 22-OCT-20
Analyst: BF
Analysis Method: SW846 8151A
Matrix: AQ
% Solids: NA
Report Date: 10-NOV-20

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
2,4-D	52.0	5.00	2.60	ug/L	45-152
Silvex	53.0	5.00	2.65	ug/L	51-134
2,4-Dichlorophenylacetic Acid	61.6				32-138

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Form 4
Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : Nike BU 51/52 Hamburg, NY
Lab File ID : 8NJ00257.D
Matrix : AQ

Column A
Instrument ID : GC08
Date Analyzed : 27-OCT-20
Time Analyzed : 21:29

SDG : SN8671
Lab Sample ID : WG288904-1
Date Extracted : 26-OCT-20
Extraction Method : SW846 3510C

Column B
Instrument ID : GC08
Date Analyzed : 27-OCT-20
Time Analyzed : 21:29

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG288904-2	8NJ00258.I	10/27/20	21:53
TCLP Blank	WG288904-3	8NJ00259.I	10/27/20	22:16
NHFLA-WC-SOIL-OCT2020	SN8671-1RE	8NJ00261.I	10/27/20	23:02

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Report of Analytical Results

Client:
Lab ID: WG288904-1
Client ID: Method Blank Sample
Project:
SDG: SN8671
Lab File ID: 8NJ00257.D

Sample Date:
Received Date:
Extract Date: 26-OCT-20
Extracted By: MP
Extraction Method: SW846 3510C
Lab Prep Batch: WG288904

Analysis Date: 27-OCT-20
Analyst: BF
Analysis Method: SW846 8151A
Matrix: AQ
% Solids: NA
Report Date: 10-NOV-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
2,4-D	U	1.4	ug/L	1	3	2.8	0.28	1.4
Silvex	U	1.4	ug/L	1	3	2.8	0.19	1.4
2,4-Dichlorophenylacetic Acid		94.8	%					

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Report of Analytical Results

Client:
Lab ID: WG288904-3
Client ID: TCLP Blank
Project:
SDG: SN8671
Lab File ID: 8NJ00259.D

Sample Date:
Received Date:
Extract Date: 26-OCT-20
Extracted By: MP
Extraction Method: 3510C/1311
Lab Prep Batch: WG288904

Analysis Date: 27-OCT-20
Analyst: BF
Analysis Method: SW846 8151A
Matrix: AQ
% Solids: NA
Report Date: 10-NOV-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
2,4-D	U	7.0	ug/L	1	3	14.	1.4	7.0
Silvex	U	7.1	ug/L	1	3	14.	0.95	7.1
2,4-Dichlorophenylacetic Acid		102.	%					

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LCS Recovery Report

Client:
Lab ID: WG288904-2
Client ID: LCS
Project:
SDG: SN8671
LCS File ID: 8NJ00258.D

Sample Date:
Received Date:
Extract Date: 26-OCT-20
Extracted By: MP
Extraction Method: SW846 3510C
Lab Prep Batch: WG288904

Analysis Date: 27-OCT-20
Analyst: BF
Analysis Method: SW846 8151A
Matrix: AQ
% Solids: NA
Report Date: 10-NOV-20

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
2,4-D	90.0	5.00	4.50	ug/L	45-152
Silvex	90.8	5.00	4.54	ug/L	51-134
2,4-Dichlorophenylacetic Acid	110.				32-138

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Report of Analytical Results

Client: ARCADIS
Lab ID: SN8671-1
Client ID: NHFLA-WC-SOIL-OCT2020
Project: Nike BU 51/52 Hamburg, NY
SDG: SN8671
Lab File ID: 1NJ10413.D

Sample Date: 15-OCT-20
Received Date: 16-OCT-20
Extract Date: 21-OCT-20
Extracted By: SR/MP
Extraction Method: 3510C/1311
Lab Prep Batch: WG288598

Analysis Date: 23-OCT-20
Analyst: APC
Analysis Method: SW846 8081B
Matrix: AQ
% Solids: 87.
Report Date: 02-NOV-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
gamma-BHC	U	0.12	ug/L	1	.05	0.25	0.036	0.12
Heptachlor	U	0.12	ug/L	1	.05	0.25	0.040	0.12
Heptachlor Epoxide	U	0.12	ug/L	1	.05	0.25	0.037	0.12
Endrin	U	0.25	ug/L	1	.1	0.50	0.042	0.25
Methoxychlor	U	1.2	ug/L	1	.5	2.5	0.042	1.2
Technical Chlordane	U	1.2	ug/L	1	.5	2.5	0.42	1.2
Toxaphene	U	2.5	ug/L	1	1	5.0	0.85	2.5
Tetrachloro-M-Xylene		76.4	%					
Decachlorobiphenyl		90.8	%					

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Report of Analytical Results

Client: ARCADIS
Lab ID: SN8671-2
Client ID: NHFLA-WC-WATER-OCT2020
Project: Nike BU 51/52 Hamburg, NY
SDG: SN8671
Lab File ID: 1NJ10414.D

Sample Date: 15-OCT-20
Received Date: 16-OCT-20
Extract Date: 21-OCT-20
Extracted By: SR/MP
Extraction Method: 3510C/1311
Lab Prep Batch: WG288598

Analysis Date: 23-OCT-20
Analyst: APC
Analysis Method: SW846 8081B
Matrix: AQ
% Solids: NA
Report Date: 02-NOV-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
gamma-BHC	U	0.12	ug/L	1	.05	0.25	0.036	0.12
Heptachlor	U	0.12	ug/L	1	.05	0.25	0.040	0.12
Heptachlor Epoxide	U	0.12	ug/L	1	.05	0.25	0.037	0.12
Endrin	U	0.25	ug/L	1	.1	0.50	0.042	0.25
Methoxychlor	U	1.2	ug/L	1	.5	2.5	0.042	1.2
Technical Chlordane	U	1.2	ug/L	1	.5	2.5	0.42	1.2
Toxaphene	U	2.5	ug/L	1	1	5.0	0.85	2.5
Tetrachloro-M-Xylene		80.8	%					
Decachlorobiphenyl		90.8	%					

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Form 4
Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : Nike BU 51/52 Hamburg, NY
Lab File ID : 1NJ10398.D
Matrix : AQ

Column A
Instrument ID : GC01
Date Analyzed : 23-OCT-20
Time Analyzed : 12:15

SDG : SN8671
Lab Sample ID : WG288598-1
Date Extracted : 21-OCT-20
Extraction Method : SW846 3510C

Column B
Instrument ID : GC01
Date Analyzed : 23-OCT-20
Time Analyzed : 12:15

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG288598-2	1NJ10399.I	10/23/20	12:35
Laboratory Control S	WG288598-3	1NJ10400.I	10/23/20	12:54
Laboratory Control S	WG288598-4	1NJ10401.I	10/23/20	13:13
TCLP Blank	WG288598-5	1NJ10402.I	10/23/20	13:33
NHFLA-WC-SOIL-OCT2020	SN8671-1	1NJ10413.I	10/23/20	17:05
NHFLA-WC-WATER-OCT2020	SN8671-2	1NJ10414.I	10/23/20	17:25

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Report of Analytical Results

Client:
Lab ID: WG288598-1
Client ID: Method Blank Sample
Project:
SDG: SN8671
Lab File ID: 1NJ10398.D

Sample Date:
Received Date:
Extract Date: 21-OCT-20
Extracted By: SR/MP
Extraction Method: SW846 3510C
Lab Prep Batch: WG288598

Analysis Date: 23-OCT-20
Analyst: APC
Analysis Method: SW846 8081B
Matrix: AQ
% Solids: NA
Report Date: 02-NOV-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
gamma-BHC	U	0.025	ug/L	1	.05	0.050	0.0072	0.025
Heptachlor	U	0.025	ug/L	1	.05	0.050	0.0080	0.025
Heptachlor Epoxide	U	0.025	ug/L	1	.05	0.050	0.0074	0.025
Endrin	U	0.050	ug/L	1	.1	0.10	0.0084	0.050
Methoxychlor	U	0.25	ug/L	1	.5	0.50	0.0084	0.25
Technical Chlordane	U	0.25	ug/L	1	.5	0.50	0.083	0.25
Toxaphene	U	0.50	ug/L	1	1	1.0	0.17	0.50
Tetrachloro-M-Xylene		82.7	%					
Decachlorobiphenyl		60.6	%					

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Report of Analytical Results

Client:
Lab ID: WG288598-5
Client ID: TCLP Blank
Project:
SDG: SN8671
Lab File ID: 1NJ10402.D

Sample Date:
Received Date:
Extract Date: 21-OCT-20
Extracted By: SR/MP
Extraction Method: 3510C/1311
Lab Prep Batch: WG288598

Analysis Date: 23-OCT-20
Analyst: APC
Analysis Method: SW846 8081B
Matrix: AQ
% Solids: NA
Report Date: 02-NOV-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
gamma-BHC	U	0.12	ug/L	1	.05	0.25	0.036	0.12
Heptachlor	U	0.12	ug/L	1	.05	0.25	0.040	0.12
Heptachlor Epoxide	U	0.12	ug/L	1	.05	0.25	0.037	0.12
Endrin	U	0.25	ug/L	1	.1	0.50	0.042	0.25
Methoxychlor	U	1.2	ug/L	1	.5	2.5	0.042	1.2
Technical Chlordane	U	1.2	ug/L	1	.5	2.5	0.42	1.2
Toxaphene	U	2.5	ug/L	1	1	5.0	0.85	2.5
Tetrachloro-M-Xylene		76.0	%					
Decachlorobiphenyl		73.2	%					

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ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG288598-2
Client ID: LCS
Project:
SDG: SN8671
LCS File ID: 1NJ10399.D

Sample Date:
Received Date:
Extract Date: 21-OCT-20
Extracted By: SR/MP
Extraction Method: SW846 3510C
Lab Prep Batch: WG288598

Analysis Date: 23-OCT-20
Analyst: APC
Analysis Method: SW846 8081B
Matrix: AQ
% Solids: NA
Report Date: 02-NOV-20

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
gamma-BHC	95.0	0.500	0.475	ug/L	59-134
Heptachlor	92.0	0.500	0.460	ug/L	54-130
Heptachlor Epoxide	94.2	0.500	0.471	ug/L	61-133
Endrin	97.0	0.500	0.485	ug/L	60-138
Methoxychlor	96.0	0.500	0.480	ug/L	54-145
Tetrachloro-M-Xylene	85.2				44-124
Decachlorobiphenyl	83.3				41-131

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LCS Recovery Report

Client:
Lab ID: WG288598-3
Client ID: LCS1
Project:
SDG: SN8671
LCS File ID: 1NJ10400.D

Sample Date:
Received Date:
Extract Date: 21-OCT-20
Extracted By: SR/MP
Extraction Method: SW846 3510C
Lab Prep Batch: WG288598

Analysis Date: 23-OCT-20
Analyst: APC
Analysis Method: SW846 8081B
Matrix: AQ
% Solids: NA
Report Date: 02-NOV-20

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Toxaphene	104.	10.0	10.4	ug/L	33-134
Tetrachloro-M-Xylene	84.9				44-124
Decachlorobiphenyl	89.2				41-131

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LCS Recovery Report

Client:
Lab ID: WG288598-4
Client ID: LCS2
Project:
SDG: SN8671
LCS File ID: 1NJ10401.D

Sample Date:
Received Date:
Extract Date: 21-OCT-20
Extracted By: SR/MP
Extraction Method: SW846 3510C
Lab Prep Batch: WG288598

Analysis Date: 23-OCT-20
Analyst: APC
Analysis Method: SW846 8081B
Matrix: AQ
% Solids: NA
Report Date: 02-NOV-20

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Technical Chlordane	118.	10.0	11.8	ug/L	62-140
Tetrachloro-M-Xylene	89.5				44-124
Decachlorobiphenyl	92.0				41-131

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ANALYTICAL SERVICES

Report of Analytical Results

Client: ARCADIS
Lab ID: SN8671-1DL
Client ID: NHFLA-WC-SOIL-OCT2020
Project: Nike BU 51/52 Hamburg, NY
SDG: SN8671
Lab File ID: 7NJ573.D

Sample Date: 15-OCT-20
Received Date: 16-OCT-20
Extract Date: 21-OCT-20
Extracted By: JPS
Extraction Method: SW846 3550C
Lab Prep Batch: WG288602

Analysis Date: 22-OCT-20
Analyst: DT
Analysis Method: SW846 8082A
Matrix: SL
% Solids: 87.
Report Date: 06-NOV-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Aroclor-1016	U	48.	ug/Kgdrywt	5	17	96.	34.	48.
Aroclor-1221	U	48.	ug/Kgdrywt	5	17	96.	45.	48.
Aroclor-1232	U	57.	ug/Kgdrywt	5	17	96.	53.	57.
Aroclor-1242	U	48.	ug/Kgdrywt	5	17	96.	33.	48.
Aroclor-1248	U	48.	ug/Kgdrywt	5	17	96.	34.	48.
Aroclor-1254	U	48.	ug/Kgdrywt	5	17	96.	27.	48.
Aroclor-1260	U	48.	ug/Kgdrywt	5	17	96.	34.	48.
Total PCBs	U	340	ug/Kgdrywt	5	119	670	27.	340
Tetrachloro-M-Xylene		73.2	%					
Decachlorobiphenyl		66.6	%					

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Report of Analytical Results

Client: ARCADIS
Lab ID: SN8671-2
Client ID: NHFLA-WC-WATER-OCT2020
Project: Nike BU 51/52 Hamburg, NY
SDG: SN8671
Lab File ID: 7NJ564.D

Sample Date: 15-OCT-20
Received Date: 16-OCT-20
Extract Date: 19-OCT-20
Extracted By: SR/MP
Extraction Method: SW846 3510C
Lab Prep Batch: WG288453

Analysis Date: 22-OCT-20
Analyst: DT
Analysis Method: SW846 8082A
Matrix: AQ
% Solids: NA
Report Date: 06-NOV-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Aroclor-1016	U	0.23	ug/L	1	.5	0.47	0.14	0.23
Aroclor-1221	U	0.23	ug/L	1	.5	0.47	0.19	0.23
Aroclor-1232	U	0.23	ug/L	1	.5	0.47	0.083	0.23
Aroclor-1242	U	0.23	ug/L	1	.5	0.47	0.17	0.23
Aroclor-1248	U	0.23	ug/L	1	.5	0.47	0.19	0.23
Aroclor-1254	U	0.23	ug/L	1	.5	0.47	0.077	0.23
Aroclor-1260	U	0.23	ug/L	1	.5	0.47	0.16	0.23
Total PCBs	U	1.6	ug/L	1	3.5	3.3	0.077	1.6
Tetrachloro-M-Xylene	*	52.5	%					
Decachlorobiphenyl	*	22.0	%					

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Form 4
Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : Nike BU 51/52 Hamburg, NY
Lab File ID : 7NJ561.D
Matrix : AQ

Column A
Instrument ID : GC07
Date Analyzed : 22-OCT-20
Time Analyzed : 14:29

SDG : SN8671
Lab Sample ID : WG288453-1
Date Extracted : 19-OCT-20
Extraction Method : SW846 3510C

Column B
Instrument ID : GC07
Date Analyzed : 22-OCT-20
Time Analyzed : 14:29

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG288453-2	7NJ562.D	10/22/20	14:57
Laboratory Control S	WG288453-3	7NJ563.D	10/22/20	15:24
NHFLA-WC-WATER-OCT2020	SN8671-2	7NJ564.D	10/22/20	15:52

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ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG288453-1
Client ID: Method Blank Sample
Project:
SDG: SN8671
Lab File ID: 7NJ561.D

Sample Date:
Received Date:
Extract Date: 19-OCT-20
Extracted By: SR/MP
Extraction Method: SW846 3510C
Lab Prep Batch: WG288453

Analysis Date: 22-OCT-20
Analyst: DT
Analysis Method: SW846 8082A
Matrix: AQ
% Solids: NA
Report Date: 06-NOV-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Aroclor-1016	U	0.25	ug/L	1	.5	0.50	0.15	0.25
Aroclor-1221	U	0.25	ug/L	1	.5	0.50	0.20	0.25
Aroclor-1232	U	0.25	ug/L	1	.5	0.50	0.089	0.25
Aroclor-1242	U	0.25	ug/L	1	.5	0.50	0.18	0.25
Aroclor-1248	U	0.25	ug/L	1	.5	0.50	0.20	0.25
Aroclor-1254	U	0.25	ug/L	1	.5	0.50	0.082	0.25
Aroclor-1260	U	0.25	ug/L	1	.5	0.50	0.17	0.25
Total PCBs	U	1.8	ug/L	1	3.5	3.5	0.082	1.8
Tetrachloro-M-Xylene		86.7	%					
Decachlorobiphenyl		89.8	%					

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ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG288453-2
Client ID: LCS
Project:
SDG: SN8671
LCS File ID: 7NJ562.D

Sample Date:
Received Date:
Extract Date: 19-OCT-20
Extracted By: SR/MP
Extraction Method: SW846 3510C
Lab Prep Batch: WG288453

Analysis Date: 22-OCT-20
Analyst: DT
Analysis Method: SW846 8082A
Matrix: AQ
% Solids: NA
Report Date: 06-NOV-20

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Aroclor-1016	85.4	5.00	4.27	ug/L	46-129
Aroclor-1260	78.4	5.00	3.92	ug/L	45-134
Tetrachloro-M-Xylene	82.6				62-111
Decachlorobiphenyl	74.4				44-135

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LCS Recovery Report

Client:
Lab ID: WG288453-3
Client ID: LCS1
Project:
SDG: SN8671
LCS File ID: 7NJ563.D

Sample Date:
Received Date:
Extract Date: 19-OCT-20
Extracted By: SR/MP
Extraction Method: SW846 3510C
Lab Prep Batch: WG288453

Analysis Date: 22-OCT-20
Analyst: DT
Analysis Method: SW846 8082A
Matrix: AQ
% Solids: NA
Report Date: 06-NOV-20

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Aroclor-1254	111.	5.00	5.55	ug/L	34-127
Tetrachloro-M-Xylene	88.6				62-111
Decachlorobiphenyl	70.5				44-135

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Form 4
Method Blank Summary

Lab Name : Katahdin Analytical Services
Project : Nike BU 51/52 Hamburg, NY
Lab File ID : 7NJ565.D
Matrix : SL

Column A
Instrument ID : GC07
Date Analyzed : 22-OCT-20
Time Analyzed : 16:20

SDG : SN8671
Lab Sample ID : WG288602-1
Date Extracted : 21-OCT-20
Extraction Method : SW846 3550C

Column B
Instrument ID : GC07
Date Analyzed : 22-OCT-20
Time Analyzed : 16:20

This Method Blank applies to the following samples, LCS, MS and MSD:

Client Sample ID	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
Laboratory Control S	WG288602-2	7NJ566.D	10/22/20	16:48
Laboratory Control S	WG288602-3	7NJ567.D	10/22/20	17:16
NHFLA-WC-SOIL-OCT2020	SN8671-1DL	7NJ573.D	10/22/20	20:03

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sales@katahdinlab.com

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client:
Lab ID: WG288602-1
Client ID: Method Blank Sample
Project:
SDG: SN8671
Lab File ID: 7NJ565.D

Sample Date:
Received Date:
Extract Date: 21-OCT-20
Extracted By: JPS
Extraction Method: SW846 3550C
Lab Prep Batch: WG288602

Analysis Date: 22-OCT-20
Analyst: DT
Analysis Method: SW846 8082A
Matrix: SL
% Solids: NA
Report Date: 06-NOV-20

Compound	Qualifier	Result	Units	Dilution	LOQ	ADJ LOQ	ADJ MDL	ADJ LOD
Aroclor-1016	U	8.5	ug/Kgdrywt	1	17	17.	6.0	8.5
Aroclor-1221	U	8.5	ug/Kgdrywt	1	17	17.	7.9	8.5
Aroclor-1232	U	10.	ug/Kgdrywt	1	17	17.	9.3	10.
Aroclor-1242	U	8.5	ug/Kgdrywt	1	17	17.	5.8	8.5
Aroclor-1248	U	8.5	ug/Kgdrywt	1	17	17.	6.1	8.5
Aroclor-1254	U	8.5	ug/Kgdrywt	1	17	17.	4.7	8.5
Aroclor-1260	U	8.5	ug/Kgdrywt	1	17	17.	6.0	8.5
Total PCBs	U	61.	ug/Kgdrywt	1	119	120	4.7	61.
Tetrachloro-M-Xylene		95.5	%					
Decachlorobiphenyl		91.0	%					

600 Technology Way
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Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG288602-2
Client ID: LCS
Project:
SDG: SN8671
LCS File ID: 7NJ566.D

Sample Date:
Received Date:
Extract Date: 21-OCT-20
Extracted By: JPS
Extraction Method: SW846 3550C
Lab Prep Batch: WG288602

Analysis Date: 22-OCT-20
Analyst: DT
Analysis Method: SW846 8082A
Matrix: SL
% Solids: NA
Report Date: 06-NOV-20

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Aroclor-1016	101.	167.	169.	ug/Kgdrywt	47-134
Aroclor-1260	99.4	167.	166.	ug/Kgdrywt	53-140
Tetrachloro-M-Xylene	100.				44-130
Decachlorobiphenyl	97.0				59-124

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Katahdin
ANALYTICAL SERVICES

LCS Recovery Report

Client:
Lab ID: WG288602-3
Client ID: LCS1
Project:
SDG: SN8671
LCS File ID: 7NJ567.D

Sample Date:
Received Date:
Extract Date: 21-OCT-20
Extracted By: JPS
Extraction Method: SW846 3550C
Lab Prep Batch: WG288602

Analysis Date: 22-OCT-20
Analyst: DT
Analysis Method: SW846 8082A
Matrix: SL
% Solids: NA
Report Date: 06-NOV-20

Compound	Recovery (%)	Conc Added	Conc Recovered	Conc Units	Limits
Aroclor-1254	121.	167.	202.	ug/Kgdrywt	67-135
Tetrachloro-M-Xylene	102.				44-130
Decachlorobiphenyl	97.3				59-124

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INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** NHFLA-WC-SOIL-OCT2020

Matrix: WATER **SDG Name:** SN8671

Percent Solids: 0.00 **Lab Sample ID:** SN8671-001

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	MDL	LOD
7440-38-2	ARSENIC, TCLP	25	U		P	1	40	7.0	25
7440-39-3	BARIUM, TCLP	391			P	1	25	1.2	15
7440-43-9	CADMIUM, TCLP	1.5	J		P	1	25	0.25	15
7440-47-3	CHROMIUM, TCLP	6.1	J		P	1	50	1.8	20
7439-92-1	LEAD, TCLP	20	U		P	1	25	5.5	20
7439-97-6	MERCURY, TCLP	0.10	U		CV	1	0.20	0.013	0.10
7782-49-2	SELENIUM, TCLP	35	U		P	1	50	12	35
7440-22-4	SILVER, TCLP	20	U		P	1	50	1.4	20

Comments:

INORGANIC ANALYSIS DATA SHEET

Lab Name: Katahdin Analytical Services **Client Field ID:** NHFLA-WC-WATER-OCT2020

Matrix: WATER **SDG Name:** SN8671

Percent Solids: 0.00 **Lab Sample ID:** SN8671-002

Concentration Units : ug/L

CAS No.	Analyte	Concentration	C	Q	M	DF	ADJUSTED LOQ	MDL	LOD
7440-38-2	ARSENIC, TCLP	25	U		P	1	40	7.0	25
7440-39-3	BARIUM, TCLP	234			P	1	25	1.2	15
7440-43-9	CADMIUM, TCLP	15	U		P	1	25	0.25	15
7440-47-3	CHROMIUM, TCLP	2.3	J		P	1	50	1.8	20
7439-92-1	LEAD, TCLP	20	U		P	1	25	5.5	20
7439-97-6	MERCURY, TCLP	0.10	U		CV	1	0.20	0.013	0.10
7782-49-2	SELENIUM, TCLP	35	U		P	1	50	12	35
7440-22-4	SILVER, TCLP	20	U		P	1	50	1.4	20

Comments:

3P

PREPARATION BLANKS

Lab Name: Katahdin Analytical Services **Sample ID:** PBT1659A

Matrix: WATER **SDG Name:** SN8671

QC Batch ID: NJ20ICW1

Concentration Units : ug/L

Analyte	RESULT	C
ARSENIC	9.4	J
BARIUM	101	B
CADMIUM	0.54	J
CHROMIUM	20	U
LEAD	17	B
MERCURY	0.065	J
SELENIUM	35	U
SILVER	20	U

3P

PREPARATION BLANKS

Lab Name: Katahdin Analytical Services **Sample ID:** PBWNJ20HGW2

Matrix: WATER **SDG Name:** SN8671

QC Batch ID: NJ20HGW2

Concentration Units : ug/L

Analyte	RESULT	C
MERCURY	0.017	J

3P

PREPARATION BLANKS

Lab Name: Katahdin Analytical Services **Sample ID:** PBWNJ20ICW1

Matrix: WATER **SDG Name:** SN8671

QC Batch ID: NJ20ICW1

Concentration Units : ug/L

Analyte	RESULT	C
ARSENIC	2.6	J
BARIUM	0.38	J
CADMIUM	0.052	J
CHROMIUM	4.0	U
LEAD	4.0	U
SELENIUM	7.0	U
SILVER	4.0	U

3P

PREPARATION BLANKS

Lab Name: Katahdin Analytical Services **Sample ID:** PBWNJ23HGW1

Matrix: WATER **SDG Name:** SN8671

QC Batch ID: NJ23HGW1

Concentration Units : ug/L

Analyte	RESULT	C
MERCURY	0.10	U

3P

PREPARATION BLANKS

Lab Name: Katahdin Analytical Services **Sample ID:** PBWNK06ICW2

Matrix: WATER **SDG Name:** SN8671

QC Batch ID: NK06ICW2

Concentration Units : ug/L

Analyte	RESULT	C
ARSENIC	5.0	U
BARIUM	0.43	J
CADMIUM	3.0	U
CHROMIUM	4.0	U
LEAD	4.0	U
SELENIUM	7.0	U
SILVER	4.0	U

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services **Sample ID:** LC2WNJ23HGW1

Matrix: WATER **SDG Name:** SN8671

QC Batch ID: NJ23HGW1

Concentration Units : ug/L

Analyte	TRUE	FOUND	% R	LIMITS (%)	
MERCURY	5.00	5.36	107.2	82	119

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services **Sample ID:** LCSWNJ20HGW2

Matrix: WATER **SDG Name:** SN8671

QC Batch ID: NJ20HGW2

Concentration Units : ug/L

Analyte	TRUE	FOUND	% R	LIMITS (%)	
MERCURY	5.00	4.87	97.4	82	119

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services **Sample ID:** LCSWNJ20ICW1

Matrix: WATER **SDG Name:** SN8671

QC Batch ID: NJ20ICW1

Concentration Units : ug/L

Analyte	TRUE	FOUND	% R	LIMITS (%)	
ARSENIC	100	104	103.9	87	113
BARIUM	2000	2120	106.1	88	113
CADMIUM	250	257	102.6	88	113
CHROMIUM	200	211	105.5	90	113
LEAD	100	108	107.7	86	113
SELENIUM	100	105	105.4	83	114
SILVER	50.0	51.5	103.0	84	115

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services **Sample ID:** LCSWNJ23HGW1

Matrix: WATER **SDG Name:** SN8671

QC Batch ID: NJ23HGW1

Concentration Units : ug/L

Analyte	TRUE	FOUND	% R	LIMITS (%)	
MERCURY	5.00	5.33	106.6	82	119

LABORATORY CONTROL SAMPLES

Lab Name: Katahdin Analytical Services **Sample ID:** LCSWNK06ICW2

Matrix: WATER **SDG Name:** SN8671

QC Batch ID: NK06ICW2

Concentration Units : ug/L

Analyte	TRUE	FOUND	% R	LIMITS (%)	
ARSENIC	100	109	108.6	87	113
BARIUM	2000	2020	101.2	88	113
CADMIUM	250	278	111.0	88	113
CHROMIUM	200	213	106.7	90	113
LEAD	100	114	114.0•	86	113
SELENIUM	100	112	111.8	83	114
SILVER	50.0	51.7	103.4	84	115

7D

LABORATORY CONTROL SAMPLE DUPLICATES

Lab Name: Katahdin Analytical Services

Matrix: WATER **SDG Name:** SN8671

QC Batch ID: NJ23HGW1 **Lab Sample ID:** LCSWNJ23HGW1

Concentration Units: ug/L

Analyte	Control Limit (%)	LCS Result	LCS Dup. Result	RPD(%)	Q
MERCURY	20.0	5.33	5.36	0.4	

FORM VIID - IN

PREPARATION LOG

Lab Name: Katahdin Analytical Services **QC Batch ID:** NJ20HGW2

Matrix: WATER **SDG Name:** SN8671

Method: CV **Prep Date:** 10/20/2020

Client ID	Lab Sample ID	Initial (L)	Final (L)	Bottle ID
LCSWNJ20HGW2	LCSWNJ20HGW2	0.025	0.025	
PBT1659A	PBT1659A	0.025	0.025	
PBWNJ20HGW2	PBWNJ20HGW2	0.025	0.025	

PREPARATION LOG

Lab Name: Katahdin Analytical Services **QC Batch ID:** NJ20ICW1

Matrix: WATER **SDG Name:** SN8671

Method: P **Prep Date:** 10/20/2020

Client ID	Lab Sample ID	Initial (L)	Final (L)	Bottle ID
LCSWNJ20ICW1	LCSWNJ20ICW1	0.05	0.05	
PBT1659A	PBT1659A	0.01	0.05	
PBWNJ20ICW1	PBWNJ20ICW1	0.05	0.05	

PREPARATION LOG

Lab Name: Katahdin Analytical Services **QC Batch ID:** NJ23HGW1

Matrix: WATER **SDG Name:** SN8671

Method: CV **Prep Date:** 10/23/2020

Client ID	Lab Sample ID	Initial (L)	Final (L)	Bottle ID
LC2WNJ23HGW1	LC2WNJ23HGW1	0.025	0.025	
LCSWNJ23HGW1	LCSWNJ23HGW1	0.025	0.025	
PBWNJ23HGW1	PBWNJ23HGW1	0.025	0.025	
NHFLA-WC-SOIL-OCT2020	SN8671-001	0.025	0.025	
NHFLA-WC-WATER-OCT2020	SN8671-002	0.025	0.025	

PREPARATION LOG

Lab Name: Katahdin Analytical Services **QC Batch ID:** NK06ICW2

Matrix: WATER **SDG Name:** SN8671

Method: P **Prep Date:** 11/06/2020

Client ID	Lab Sample ID	Initial (L)	Final (L)	Bottle ID
LCSWNK06ICW2	LCSWNK06ICW2	0.05	0.05	
PBWNK06ICW2	PBWNK06ICW2	0.05	0.05	
NHFLA-WC-SOIL-OCT2020	SN8671-001	0.01	0.05	
NHFLA-WC-WATER-OCT2020	SN8671-002	0.01	0.05	

Report of Analytical Results

Client: Jennifer Singer
Arcadis of New York, Inc.
50 Fountain Plaza
Buffalo,NY 14202

Lab Sample ID: SN8671-1
Report Date: 09-NOV-20
Project: Nike BU 51/52 Hamburg, NY
SDG: SN8671

Sample Description	Matrix	Date Sampled	Date Received
NHFLA-WC-SOIL-OCT2020	SL	15-OCT-20 15:00:00	16-OCT-20

Parameter	Result	Adj PQL	Adj MDL	Anal. Method	QC Batch	Analysis Date	Prep. Method	Prep. Date	Analyst	Footnotes	RPD/RSD
Cyanide, Reactive	U10. mg/Kg	20.	0.16	SW846 7.3.3	WG288648	21-OCT-20 14:38:24	SW846 7.3.4	16-OCT-20	ES		
Ignitability	>71. Deg. C	71.	71.	SW846 1010A MOD	WG288633	20-OCT-20 15:00:00	N/A	N/A	ZL		
Sulfide,Reactive	J36. mg/Kg	50	16.39	SW846 7.3.4	WG288375	16-OCT-20 12:58:00	SW846 7.3.4	16-OCT-20	JG		
Total Solids	87. %	1		SW3540C	WG289147	29-OCT-20 12:45:00	SW3540C	28-OCT-20	ZL/JG		
pH(Soil)	7.8 pH	0.10	0.10	SW846 9045D	WG288436	16-OCT-20 14:11:50	SW846 9045D	16-OCT-20	SS		

Katahdin
ANALYTICAL SERVICES

Report of Analytical Results

Client: Jennifer Singer
Arcadis of New York, Inc.
50 Fountain Plaza
Buffalo,NY 14202

Lab Sample ID: SN8671-2
Report Date: 09-NOV-20
Project: Nike BU 51/52 Hamburg, NY
SDG: SN8671

Sample Description	Matrix	Date Sampled	Date Received
NHFLA-WC-WATER-OCT2020	AQ	15-OCT-20 15:30:00	16-OCT-20

Parameter	Result	Adj PQL	Adj MDL	Anal. Method	QC Batch	Analysis Date	Prep. Method	Prep. Date	Analyst	Footnotes	RPD/RSD
Cyanide, Reactive	U10. mg/Kg	20.	0.16	SW846 7.3.3	WG288647	21-OCT-20 14:38:24	SW846 7.3.4	16-OCT-20	ES		
Ignitability	>71. Deg. C	71.	71.	SW846 1010A	WG288633	20-OCT-20 15:00:00	N/A	N/A	ZL		
Sulfide,Reactive	J23. mg/Kg	50.	16.39	SW846 7.3.4	WG288375	16-OCT-20 12:58:00	SW846 7.3.4	16-OCT-20	JG		
pH(Laboratory)	8.0 pH	0.10	0.10	SW846 9040C	WG288435	16-OCT-20 12:48:15	N/A	N/A	SS		

Quality Control Report

Blank Sample Summary Report

Cyanide, Reactive

Samp Type	QC Batch	Anal. Method	Anal. Date	Prep. Date	Result	PQL
MBLANK	WG288647	SW846 7.3.3	21-OCT-20	16-OCT-20	U 10. mg/Kg	20. mg/Kg
MBLANK	WG288648	SW846 7.3.3	21-OCT-20	16-OCT-20	U 10. mg/Kg	20. mg/Kg

Ignitability

Samp Type	QC Batch	Anal. Method	Anal. Date	Prep. Date	Result	PQL
MBLANK	WG288633	SW846 1010A	20-OCT-20	N/A	> 71. Deg. C	71. Deg. C

Sulfide,Reactive

Samp Type	QC Batch	Anal. Method	Anal. Date	Prep. Date	Result	PQL
MBLANK	WG288375	SW846 7.3.4	16-OCT-20	16-OCT-20	J 27. mg/Kg	50. mg/Kg

Total Solids

Samp Type	QC Batch	Anal. Method	Anal. Date	Prep. Date	Result	PQL
MBLANK	WG289147	SW3540C	29-OCT-20	28-OCT-20	100 %	1 %

Quality Control Report

Laboratory Control Sample Summary Report

Cyanide, Reactive

Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG288647-2	LCS	WG288647	21-OCT-20	16-OCT-20	mg/Kg	20	J 13.	64	0-100	
WG288648-2	LCS	WG288648	21-OCT-20	16-OCT-20	mg/Kg	20	J 13.	64	0-100	
WG288647-3	LCSD	WG288647	21-OCT-20	16-OCT-20	mg/Kg	20	J 8.1	40	0-100	45*
WG288648-3	LCSD	WG288648	21-OCT-20	16-OCT-20	mg/Kg	20	J 8.1	40	0-100	45*

Ignitability

Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG288633-2	LCS	WG288633	20-OCT-20	N/A	Deg. C	27	26.	95	80-120	
WG288633-3	LCSD	WG288633	20-OCT-20	N/A	Deg. C	27	28.	103	80-120	7

Sulfide,Reactive

Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG288375-2	LCS	WG288375	16-OCT-20	16-OCT-20	mg/Kg	869.2	580	66	30-120	
WG288375-3	LCSD	WG288375	16-OCT-20	16-OCT-20	mg/Kg	869.2	550	63	30-120	5

Total Solids

Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG289147-2	LCS	WG289147	29-OCT-20	28-OCT-20	%	90	90.	100	90-110	
WG289147-3	LCSD	WG289147	29-OCT-20	28-OCT-20	%	90	90.	100	90-110	0

pH(Laboratory)

Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG288435-1	LCS	WG288435	16-OCT-20	N/A	pH	7	7.0	101	80-120	

pH(Soil)

Lab Sample Id	Samp Type	QC Batch	Analysis Date	Prep Date	Units	Spike Amt.	Result	Recovery	Acceptance Range	RPD
WG288436-1	LCS	WG288436	16-OCT-20	16-OCT-20	pH	7	7.0	101	90-110	

Quality Control Report

Duplicate Sample Summary Report

pH(Laboratory)

Duplicate Sample ID	Original Sample ID	QC Batch	Analysis Date	Result Units	Sample Result	Duplicate Result	RPD(%)	RPD Limit
WG288435-2	SN8671-2	WG288435	16-OCT-20	pH	8.0	8.4	6	20

Katahdin Analytical Services, LLC.

Sample Receipt Condition Report

Client:	Arcadis	KAS PM:	HMM	Sampled By:	Client
Project:		KIMS Entry By:	JCB	Delivered By:	Fedex
KAS Work Order#:	SN8671	KIMS Review By:	HMM	Received By:	JCB
		Labeled By:	JCB		
SDG #:		Cooler: 1 of 1		Date/Time Rec.:	10/16/20 0930

Receipt Criteria	Y	N	EX*	NA	Comments and/or Resolution
1. Custody seals present / intact?	✓				
2. Chain of Custody present in cooler?	✓				
3. Chain of Custody signed by client?	✓				
4. Chain of Custody matches samples?	✓				
5. Temperature Blanks present? If not, take temperature of any sample w/ IR gun.	✓				Temp (°C): 2.7 — Thermometer ID: IR-1
Samples received at <6 °C w/o freezing?	✓				Note: Not required for metals (except Hg soil) analysis.
Ice packs or ice present?	✓				The lack of ice or ice packs (i.e. no attempt to begin cooling process) or insufficient ice may not meet certain regulatory requirements and may invalidate certain data.
If yes, was there sufficient ice to meet temperature requirements?	✓				
If temp. out, has the cooling process begun (i.e. ice or packs present) and sample collection times <6hrs., but samples are not yet cool?				✓	Note: No cooling process required for metals (except Hg soil) analysis.
6. Volatiles: **Aqueous:** No bubble larger than a pea?	✓				
Soil/Sediment:					
Received in airtight container?				✓	
Received in methanol?				✓	
Methanol covering soil?				✓	
D.I. Water - Received within 48 hour HT?				✓	
7. Trip Blank present in cooler?				✓	
8. Proper sample containers and volume?		X			HCl VOA and HNO_3 metals – but this is for TCLP
9. Samples within hold time upon receipt?	✓				
10. Aqueous samples properly preserved? Metals, COD, NH3, TKN, O/G, phenol, TPO4, N+N, TOC, DRO, TPH – pH <2	✓				
Sulfide - >9				✓	
Cyanide – pH >12				✓	
11. Bottleware Prepped on:					

* Log-In Notes to Exceptions: document any problems with samples or discrepancies or pH adjustments.

Heather Manz

From: Clubine, Katherine <Katherine.Clubine@arcadis.com>
Sent: Friday, October 16, 2020 1:47 PM
To: Heather Manz; Singer, Jennifer; Vitolins, Andy
Cc: Mike Flanders; Leslie Dimond; Greg Lull; Sara Colby; Login Department
Subject: Re: TCLP Nike samples received today

You can take it from the ambers, there should be enough volume. I included both because I wasn't sure what you needed.

From: Heather Manz <hmanz@katahdinlab.com>
Sent: Friday, October 16, 2020 1:37 PM
To: Singer, Jennifer <Jennifer.Singer@arcadis.com>; Vitolins, Andy <Andy.Vitolins@arcadis.com>; Clubine, Katherine <Katherine.Clubine@arcadis.com>
Cc: Mike Flanders <mflanders@katahdinlab.com>; Leslie Dimond <ldimond@katahdinlab.com>; Greg Lull <glull@katahdinlab.com>; Sara Colby <scolby@katahdinlab.com>; Login Department <login@katahdinlab.com>
Subject: TCLP Nike samples received today

Hello,

The TCLP VOA vials we received today are preserved with HCL. TCLP samples need to be unpreserved. Would you like us to analyze TCLP VOA from one of the amber bottles received? I'm not sure if the ambers were received without headspace or not.

Thank You,
Heather Manz

Project Manager
Katahdin Analytical Services
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CHAIN of CUSTODY

PLEASE BEAR DOWN AND PRINT LEGIBLY IN PEN

Page 1 of 1

Client: SERES-ARCADIS JV, INC.	Contact: KATE CLUBINE	Phone #: (248) 946 1141	Fax #: (716) 842-2612
Address: 669 MARINA DR. SUITE B7	City: CHARLESTON	State: SC	Zip Code: 29492
Purchase Order #	Proj. Name / No.: 30027153 USACE NE(SERES) NIKE BU 51/52		Katahdin Quote #
Bill (if different than above): ARCADIS US, INC.	Address: 630 PLAZA DRIVE, SUITE 200 HIGHLANDS RANCH, CO 80129		
Sampler (Print / Sign): KATE CLUBINE		Copies To: KATHERINE.CLUBINE@ARCADIS.COM	

LAB USE ONLY — WORK ORDER #: SN8671
KATAHDIN PROJECT NUMBER

REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

★	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	Filt. Y N FLASH	Filt. Y N CORROSIVITY	Filt. Y N TCLP METAL	Filt. Y N TCLP SVOC	Filt. Y N TCLP VOC	Filt. Y N TCLP PESTICIDE	Filt. Y N TCLP HERBICIDE	Filt. Y N TOTAL PCBS	Filt. Y N REACTIVE SULFIDE	Filt. Y N REACTIVE CYANIDE
	NHFLA-WC-SOIL-OCT2020	10-15-2020 15:00	SOIL	6	X	X	X	X	X	X	X	X	X	X
	NHFLA-WC-WATER-OCT2020	10-15-2020 15:30	WATER	14	X	X	X	X	X	X	X	X	X	X
		/												
		/												
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COMMENTS: THESE ARE WASTE CHARACTERIZATION SAMPLES. RESULTS DO NOT NEED TO BE INDIVIDUALLY LOADED TO FUDSCHEM, JUST THE FINAL PDF OF THE REPORT

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
	10-15-2020 16:30	10/16/20 0830			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

THE TERMS AND CONDITIONS ON THE REVERSE SIDE HEREOF SHALL GOVERN SERVICES, EXCEPT WHEN A SIGNED CONTRACTUAL AGREEMENT EXISTS.

Login Chain of Custody Report (lno1)

Oct. 17, 2020
06:49 PM

Quote/Incoming: ARCADIS-NIKE5152

Login Number: SN8671

Account: ARCADIS002
ARCADIS

NoWeb

Project: ARCADIS-NIKE5152

Primary Report Address:

Jennifer Singer
Arcadis of New York, Inc.
50 Fountain Plaza
Suite 600
Buffalo,NY 14202
Jennifer.Singer@arcadis.com

Primary Invoice Address:

Accounts Payable
ARCADIS U.S., Inc.
630 Plaza Drive
Suite 100
Highlands Ranch,CO 80129

Report CC Addresses:

Invoice CC Addresses:

Login Information:

ANALYSIS INSTRUCTIONS	:	DOD 5.3, ND to LOD w/ J flags. Please include a level 4 narrative. Metals use package generator & include form 13 in report. 8260C, 8270D, 6010C, 6020A, 7196A, 7471B, 7470A. Use sonication for extraction.
CHECK NO.	:	
CLIENT PO#	:	30027953.4.1
CLIENT PROJECT MANAGE	:	Jennifer Singer
CONTRACT	:	W912WJ-19-D-0004
COOLER TEMPERATURE	:	2.7
DELIVERY SERVICES	:	FedEx
EDD FORMAT	:	ARCADIS_EQUIS
LOGIN INITIALS	:	JCB
PM	:	HHM
PROJECT NAME	:	Nike BU 51/52 Hamburg, NY
QC LEVEL	:	II+
REPORT INSTRUCTIONS	:	Please include a level 4 narrative. Email EQuIS EDD & PDF to Jennifer.Singer@arcadis.com, Andy.Vitolins@arcadis.com, & Katherine.Clubine@arcadis.com. Email invoice to AccountsPayable.Administration@arcadis.com & Katherine.Clubine@arcadis.com.
SDG ID	:	
SDG STATUS	:	
VERBAL TAT	:	

Login Number: SN8671

Quote/Incoming: ARCADIS-NIKE5152

Account: ARCADIS002 NoWeb

ARCADIS

Project: ARCADIS-NIKE5152

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SN8671-1	NHFLA-WC-SOIL-OCT2020	15-OCT-20 15:00	16-OCT-20			04-NOV-20	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Solid	S	SW1010-IGNITABILITY	29-OCT-20	250mL Plastic		
Solid	S	SW7.3.4-REAC CYANIDE	29-OCT-20	500mL P+ZnAc/NaOH		
Solid	S	SW7.3.4-REAC SULFIDE	22-OCT-20	100g Glass		
Solid	S	SW8082-S	14-NOV-20	100g Glass		
Solid	S	SW9045C-PH SOIL	16-OCT-20	100g Glass		
Solid	P	TCLP-HERB8151				
SW1311-EXT-HERB		TCLP-SW8151				
Solid	P	TCLP-METALS				
SW1311-EXT		SW3010-PREP	TCLP-ARSENIC			
TCLP-BARIUM		TCLP-CADMIUM	TCLP-CHROMIUM			
TCLP-LEAD		TCLP-MERCURY	TCLP-SELENIUM			
TCLP-SILVER						
Solid	P	TCLP-PEST				
SW1311-EXT-PEST		TCLP-SW8081				
Solid	P	TCLP-SVOA				
SW1311-EXT-SVOA		TCLP-SW8270				
Solid	P	TCLP-VOA				
SW1311-EXT-VOA		TCLP-SW8260				
Solid	S	TS	29-OCT-20			

Laboratory Sample ID	Client Sample Number	Collect Date/Time	Receive Date	PR	Verbal Date	Due Date	Mailed
SN8671-2	NHFLA-WC-WATER-OCT2020	15-OCT-20 15:30	16-OCT-20			04-NOV-20	

Matrix		Product	Hold Date (shortest)	Bottle Type	Bottle Count	Comments
Aqueous	S	SW1010-IGNITABILITY	29-OCT-20	250mL Plastic		**Analyze VOA & Metals from amber bottles.**
Aqueous	S	SW7.3.4-REAC CYANIDE	29-OCT-20	500mL P+ZnAc/NaOH		
Aqueous	S	SW7.3.4-REAC SULFIDE	22-OCT-20	500mL P+ZnAc/NaOH		
Aqueous	S	SW8082-S	14-NOV-20	1L N-Amber Glass		
Aqueous	S	SW9040B-PH	16-OCT-20	125mL Plastic		
Aqueous	P	TCLP-HERB8151				
SW1311-EXT-HERB		TCLP-SW8151				
Aqueous	P	TCLP-METALS		1L N-Amber Glass		
SW1311-EXT		SW3010-PREP	TCLP-ARSENIC			
TCLP-BARIUM		TCLP-CADMIUM	TCLP-CHROMIUM			
TCLP-LEAD		TCLP-MERCURY	TCLP-SELENIUM			
TCLP-SILVER						
Aqueous	P	TCLP-SVOA				
SW1311-EXT-SVOA		TCLP-SW8270				
Aqueous	S	TCLP-SW8081	22-OCT-20	1L N-Amber Glass		
Aqueous	S	TCLP-SW8260	29-OCT-20	40mL Vial+HCl		

Total Samples: 2 ***Total Analyses: 21***

EZ Profile™

Requested Facility: Chaffee Landfill ☐ Unsure Profile Number: 123321NY

☐ Multiple Generator Locations (Attach Locations) ☑ Request Certificate of Disposal ☐ Renewal? Original Profile Number: _____

A. GENERATOR INFORMATION (MATERIAL ORIGIN)

1. Generator Name: United States Army Corps of Engineers
2. Site Address: 2720 Lakeview Rd
   (City, State, ZIP) Lake View NY 14085
3. County: Erie
4. Contact Name: Kate Clubine
5. Email: Katherine.Clubine@arcadis.com
6. Phone: (716) 667-6637 7. Fax: _____
8. Generator EPA ID: _____ ☑ N/A
9. State ID: _____ ☑ N/A

B. BILLING INFORMATION ☐ SAME AS GENERATOR

1. Billing Name: Arcadis U.S., Inc.
2. Billing Address: 630 Plaza Drive
   (City, State, ZIP) Highlands Ranch CO 80129
3. Contact Name: Accounts Payable
4. Email: AccountsPayable.Administration@arcadis.com
5. Phone: (303) 471-3699 6. Fax: _____
7. WM Hauled? ☑ Yes ☐ No
8. P.O. Number: 30027953
9. Payment Method: ☑ Credit Account ☐ Cash ☐ Credit Card

C. MATERIAL INFORMATION

1. Common Name: Groundwater
   Describe Process(es) Generating Material: ☐ See Attached
   Purge water from groundwater monitoring wells
2. Material Composition and Contaminants: ☐ See Attached

1. Water	99-100 %
2. Sediment	0-1 %
3.	
4.	
Total comp. must be equal to or greater than 100%	≥100%

3. State Waste Codes: _____ ☑ N/A
4. Color: Clear
5. Physical State at 70˚F: ☐ Solid ☑ Liquid ☐ Other: _____
6. Free Liquid Range Percentage: _____ to _____ ☑ N/A
7. pH: 8 to 8 ☐ N/A
8. Strong Odor: ☐ Yes ☑ No Describe: _____
9. Flash Point: ☐ <140˚F ☑ 140˚–199˚F ☐ ≥200˚ ☐ N/A

D. REGULATORY INFORMATION

1. EPA Hazardous Waste? ☐ Yes* ☑ No
   Code: _____
2. State Hazardous Waste? ☐ Yes ☑ No
   Code: _____
3. Is this material non-hazardous due to Treatment, Delisting, or an Exclusion? ☐ Yes* ☑ No
4. Contains Underlying Hazardous Constituents? ☐ Yes* ☑ No
5. From an industry regulated under Benzene NESHAP? ☐ Yes* ☑ No
6. Facility remediation subject to 40 CFR 63 GGGGG? ☐ Yes* ☑ No
7. CERCLA or State-mandated clean-up? ☐ Yes* ☑ No
8. NRC or State-regulated radioactive or NORM waste? ☐ Yes* ☑ No

***If Yes, see Addendum (page 2) for additional questions and space.**

9. Contains PCBs? → If Yes, answer a, b and c. ☐ Yes ☑ No
   a. Regulated by 40 CFR 761? ☐ Yes ☐ No
   b. Remediation under 40 CFR 761.61 (a)? ☐ Yes ☐ No
   c. Were PCB imported into the US? ☐ Yes ☐ No
10. Regulated and/or Untreated Medical/Infectious Waste? ☐ Yes ☑ No
11. Contains Asbestos? ☐ Yes ☑ No
    → If Yes: ☐ Non-Friable ☐ Non-Friable – Regulated ☐ Friable

E. ANALYTICAL AND OTHER REPRESENTATIVE INFORMATION

1. Analytical attached ☑ Yes
   Please identify applicable samples and/or lab reports:
   NHFLA-WC-WATER-OCT2020
2. Other information attached (such as MSDS)? ☐ Yes

F. SHIPPING AND DOT INFORMATION

1. ☐ One-Time Event ☑ Repeat Event/Ongoing Business
2. Estimated Quantity/Unit of Measure: 2000
   ☐ Tons ☐ Yards ☐ Drums ☑ Gallons ☐ Other: _____
3. Container Type and Size: 55 gallon drum
4. USDOT Proper Shipping Name: ☐ N/A
   Non-RCRA, Non-DOT, Liquid, n.o.s (groundwater)

G. GENERATOR CERTIFICATION (PLEASE READ AND CERTIFY BY SIGNATURE)

By signing this EZ Profile™ form, I hereby certify that all information submitted in this and all attached documents contain true and accurate descriptions of this material, and that all relevant information necessary for proper material characterization and to identify known and suspected hazards has been provided. Any analytical data attached was derived from a sample that is representative as defined in 40 CFR 261 - Appendix 1 or by using an equivalent method. All changes occurring in the character of the material (i.e., changes in the process or new analytical) will be identified by the Generator and be disclosed to Waste Management prior to providing the material to Waste Management.

☐ I am an Authorized Agent signing on behalf of the Generator, and I have confirmed with the Generator that information contained in this profile, as well as supporting documents provided, are accurate and complete.

Name (Print): _____ Date: _____

Title: _____

Company: _____

Certification Signature

THINK GREEN®

QUESTIONS? CALL 800 963 4776 FOR ASSISTANCE

EZ Profile™

Requested Facility: Chaffee Landfill ☐ Unsure Profile Number: 123322NY

☐ Multiple Generator Locations (Attach Locations) ☑ Request Certificate of Disposal ☐ Renewal? Original Profile Number: _____

A. GENERATOR INFORMATION (MATERIAL ORIGIN)

1. Generator Name: United States Army Corps of Engineers
2. Site Address: 2720 Lakeview Rd
   (City, State, ZIP) Lake View NY 14085
3. County: Erie
4. Contact Name: Kate Clubine
5. Email: Katherine.Clubine@arcadis.com
6. Phone: (716) 667-6637 7. Fax: _____
8. Generator EPA ID: _____ ☑ N/A
9. State ID: _____ ☑ N/A

B. BILLING INFORMATION ☐ SAME AS GENERATOR

1. Billing Name: Arcadis U.S., Inc.
2. Billing Address: 630 Plaza Drive
   (City, State, ZIP) Highlands Ranch CO 80129
3. Contact Name: Accounts Payable
4. Email: AccountsPayable.Administration@arcadis.com
5. Phone: (303) 471-3699 6. Fax: _____
7. WM Hauled? ☑ Yes ☐ No
8. P.O. Number: 30027953
9. Payment Method: ☑ Credit Account ☐ Cash ☐ Credit Card

C. MATERIAL INFORMATION

1. Common Name: Soil
   Describe Process(es) Generating Material: ☐ See Attached
   Soil cuttings from drilling borings and monitoring wells
2. Material Composition and Contaminants: ☐ See Attached

1. Soil	99-100 %
2. Vegetation	0-1 %
3.	
4.	
Total comp. must be equal to or greater than 100%	≥100%

3. State Waste Codes: _____ ☑ N/A
4. Color: Brown
5. Physical State at 70˚F: ☑ Solid ☐ Liquid ☐ Other: _____
6. Free Liquid Range Percentage: _____ to _____ ☑ N/A
7. pH: 7.8 to 7.8 ☐ N/A
8. Strong Odor: ☐ Yes ☑ No Describe: _____
9. Flash Point: ☐ <140˚F ☑ 140˚–199˚F ☐ ≥200˚ ☐ N/A

D. REGULATORY INFORMATION

1. EPA Hazardous Waste? ☐ Yes* ☑ No
   Code: _____
2. State Hazardous Waste? ☐ Yes ☑ No
   Code: _____
3. Is this material non-hazardous due to Treatment, Delisting, or an Exclusion? ☐ Yes* ☑ No
4. Contains Underlying Hazardous Constituents? ☐ Yes* ☑ No
5. From an industry regulated under Benzene NESHAP? ☐ Yes* ☑ No
6. Facility remediation subject to 40 CFR 63 GGGGG? ☐ Yes* ☑ No
7. CERCLA or State-mandated clean-up? ☐ Yes* ☑ No
8. NRC or State-regulated radioactive or NORM waste? ☐ Yes* ☑ No

***If Yes, see Addendum (page 2) for additional questions and space.**

9. Contains PCBs? → If Yes, answer a, b and c. ☐ Yes ☑ No
   a. Regulated by 40 CFR 761? ☐ Yes ☐ No
   b. Remediation under 40 CFR 761.61 (a)? ☐ Yes ☐ No
   c. Were PCB imported into the US? ☐ Yes ☐ No
10. Regulated and/or Untreated Medical/Infectious Waste? ☐ Yes ☑ No
11. Contains Asbestos? ☐ Yes ☑ No
    → If Yes: ☐ Non-Friable ☐ Non-Friable – Regulated ☐ Friable

E. ANALYTICAL AND OTHER REPRESENTATIVE INFORMATION

1. Analytical attached ☑ Yes
   Please identify applicable samples and/or lab reports:
   NHFLA-WC-SOIL-OCT2020
2. Other information attached (such as MSDS)? ☐ Yes

F. SHIPPING AND DOT INFORMATION

1. ☐ One-Time Event ☑ Repeat Event/Ongoing Business
2. Estimated Quantity/Unit of Measure: 10
   ☑ Tons ☐ Yards ☐ Drums ☐ Gallons ☐ Other: _____
3. Container Type and Size: 55 gallon drum
4. USDOT Proper Shipping Name: ☐ N/A
   Non-RCRA, Non-DOT, Solids, n.o.s (soil)

G. GENERATOR CERTIFICATION (PLEASE READ AND CERTIFY BY SIGNATURE)

By signing this EZ Profile™ form, I hereby certify that all information submitted in this and all attached documents contain true and accurate descriptions of this material, and that all relevant information necessary for proper material characterization and to identify known and suspected hazards has been provided. Any analytical data attached was derived from a sample that is representative as defined in 40 CFR 261 - Appendix 1 or by using an equivalent method. All changes occurring in the character of the material (i.e., changes in the process or new analytical) will be identified by the Generator and be disclosed to Waste Management prior to providing the material to Waste Management.

☐ I am an Authorized Agent signing on behalf of the Generator, and I have confirmed with the Generator that information contained in this profile, as well as supporting documents provided, are accurate and complete.

Name (Print): _____ Date: _____

Title: _____

Company: _____

Certification Signature

THINK GREEN®

QUESTIONS? CALL 800 963 4776 FOR ASSISTANCE

Profile Amendment Request Form

Andy Vitolins hereby requests an amendment to WMI profile #: 123321NY
(Contact Name)

to include the following:

Amendment Type: ☑ One Time Only Request (Event) ☐ Permanent Addition to Profile (Base)

☐ Additional Analytical/MSDS to be added to profile (see attached) **Analytical ID #(s): _____

☑ Volume Increase (specify volume) 32 ☐ Tons ☐ Cubic Yards ☑ Drums ☐ Gallons ☐ Other (specify) _____

☐ Constituent(s) to be added and/or modify current range in chemical composition:

Chemicals or constituents to be added/modify	Low	High	Units

☐ Change current ranges on profile (specify below)

pH Range _____ to _____ Free Liquid Range _____ to _____

☐ Other (specify) _____

GENERATOR CERTIFICATION

By signing this form, the Generator hereby certifies:
The information provided in this document, the referenced Waste Management Generator's Waste Profile Sheet, and all other referenced documents contain true and accurate descriptions of the waste material. All information regarding known or suspected hazards in the possession of the Generator has been disclosed.

Generator/Customer Signature: _____ On behalf of USACE NE District Date: 5/11/21

Company Name: Arcadis of NY, Inc. on behalf of USACE NE District

Name (Print): Andy Vitolins on behalf of USACE NE District Title: Vice President

FOR WASTE MANAGEMENT USE ONLY

Submitted By: _____ (W.M. Initials) Date: _____ Time: _____

WM Approval: _____ Date: _____

Agency Approval Required: ☐ Yes ☐ No

☐ Profile Extension

Original Expiration Date _____

Requested Extension _____

New Expiration Date _____

☐ Analytical Extension

Analytical Due Date _____

Requested Extension _____

New Analytical Due Date _____

Conditions/Precautions: _____

Industrial Waste & Disposal Services Agreement

Exhibit A

Profile number: 123322NY TSR : David Porter Sales person: 243

A. GENERATOR

1. Name: United States Army Corps of Engineers - NE
2. Address: 2720 Lakeview Rd
   City: Lake View County: Erie
   State: NY ZIP code: 14085

B. CUSTOMER BILLING INFORMATION

1. Name: Arcadis U.S., Inc.
2. Address: 630 Plaza Drive
   City: Highlands Ranch
   State: CO ZIP code: 80129
3. Contact name: Accounts Payable
4. Email: AccountsPayable.Administration@arcadis.com
5. Phone: (303) 471-3699 6. Fax:
7. P.O. number: 30027953

C. FACILITY

❑ See Attached

1. Name(s): Chaffee Landfill

D. MATERIAL

1. Name: Soil
2. Anticipated volume: 58 Drums

E. CHARGES

❑ See Attached

DESCRIPTION	RATE	MINIMUM
Chaffee Landfill		
Treatment Method Direct Landfill	$85.00 / Drum	
Transportation Trip	$220.00 / Hour	8 Hour
Transportation Demurrage	$105.00 / Hour	/ after one free hour
Additional Services Labor	$85.00 / Hour	/ per person
Tax State Tax	8.75 %	/ of the Total Invoice

Other services not listed above will incur additional charges that vary by location and are subject to change without notice. Payment of invoice represents agreement of such charges.

PLEASE REVIEW SECTION F WHICH CONTAINS IMPORTANT COMMENTS REGARDING YOUR WASTE STREAM.

F. COMMENTS ❑ See Attached

• Waste Management reserves the right to refuse any load or discontinue any waste stream should such waste pose a threat to human health or safety, prove to be operationally challenging, or is in violation of any WM permit.

• All loads must be accompanied by proper shipping paper.

• If Waste Management (WM) received authorization to make changes to your waste profile during the approval process, your acceptance and execution of this Exhibit A confirms the accuracy of the changes.

• If WM (or a WM contracted hauler) is not providing the transportation services, you must ensure that the transporter is licensed and approved to haul the Special Waste and/or Hazardous Waste. All Third Party Transporters must comply with WM Safety requirements and procedures (hard hat, safety glasses, steel-toe boots, and safety vest). If transporting to a CWM facility, a Tyvek suit and respirator are also required.

• Prices quoted herein are valid for 30 days. Unless Waste Management is hired for this project prior to the expiration of this 30 day period in which case pricing remains valid in accordance with the terms of the Service Agreement.

• Pricing is based on the information provided on your profile and the representative data previously submitted. Charges incurred for additional services not listed above will be subject to standard rates and payment of the invoice represents mutual agreement of those charges.

• The fuel surcharge percentage can fluctuate on a weekly basis; www.wm.com/fec.jsp provides the current Fuel Surcharge and DOE average. The actual percentage rate applied to the total project invoice will be determined on the date the load was received.

• Please see profile approval form for special handling instructions. Additional special terms and conditions may be defined on your original quotation.

The work contemplated by this Exhibit A is to be done in accordance with the terms and conditions of the Industrial Waste & Disposal Services Agreement or other contractual agreement between the parties dated: 07/10/2020

YOUR ACCEPTANCE OF THESE TERMS CREATES A BINDING AGREEMENT AS FOLLOWS: (I) TYPE OR SIGN YOUR NAME AND TITLE WHERE INDICATED BELOW OR (II) YOUR TENDER OR DELIVERY TO COMPANY OF THE INDUSTRIAL WASTE DESCRIBED IN THE COMPANY APPROVED PROFILE SHEET AND (IF APPLICABLE) CONFIRMATION LETTER SHALL CONSTITUTE YOUR ACCEPTANCE OF THESE TERMS WITHOUT YOUR SIGNATURE.

COMPANY

By: _____ Date: _____

Name: _____

Title: _____

CUSTOMER

Signature: Andrew Vitolins on behalf of USACE NE District Date: 04/29/2021

Name: Andrew Vitolins

Title: Vice President

Industrial Waste & Disposal Services Agreement

Exhibit A

Profile number: 123321NY TSR : David Porter Sales person: 243

A. GENERATOR

1. Name: United States Army Corps of Engineers
2. Address: 2720 Lakeview Rd
   City: Lake View County: Erie
   State: NY ZIP code: 14085

B. CUSTOMER BILLING INFORMATION

1. Name: Arcadis U.S., Inc.
2. Address: 630 Plaza Drive
   City: Highlands Ranch
   State: CO ZIP code: 80129
3. Contact name: Accounts Payable
4. Email: andy.vitolins@arcadis.com
5. Phone: (518) 250-7359 6. Fax:
7. P.O. number: 30027953

C. FACILITY

❑ See Attached

1. Name(s): Chaffee Landfill

D. MATERIAL

1. Name: Sediment and groundwater
2. Anticipated volume: 24 Drums

E. CHARGES

❑ See Attached

DESCRIPTION	RATE	MINIMUM
Chaffee Landfill		
Treatment Method Solidification / Liquifix	$100.00 / Drum	
Transportation Trip	$220.00 / Hour	8 Hour
Transportation Demurrage	$105.00 / Hour	/ after one free hour
Additional Services Labor	$85.00 / Hour	/ per person
Tax State Tax	8.75 %	/ of the Total Invoice

Other services not listed above will incur additional charges that vary by location and are subject to change without notice. Payment of invoice represents agreement of such charges.

PLEASE REVIEW SECTION F WHICH CONTAINS IMPORTANT COMMENTS REGARDING YOUR WASTE STREAM.

F. COMMENTS ❑ See Attached

• Waste Management reserves the right to refuse any load or discontinue any waste stream should such waste pose a threat to human health or safety, prove to be operationally challenging, or is in violation of any WM permit.

• All loads must be accompanied by proper shipping paper.

• If Waste Management (WM) received authorization to make changes to your waste profile during the approval process, your acceptance and execution of this Exhibit A confirms the accuracy of the changes.

• If WM (or a WM contracted hauler) is not providing the transportation services, you must ensure that the transporter is licensed and approved to haul the Special Waste and/or Hazardous Waste. All Third Party Transporters must comply with WM Safety requirements and procedures (hard hat, safety glasses, steel-toe boots, and safety vest). If transporting to a CWM facility, a Tyvek suit and respirator are also required.

• Prices quoted herein are valid for 30 days. Unless Waste Management is hired for this project prior to the expiration of this 30 day period in which case pricing remains valid in accordance with the terms of the Service Agreement.

• Pricing is based on the information provided on your profile and the representative data previously submitted. Charges incurred for additional services not listed above will be subject to standard rates and payment of the invoice represents mutual agreement of those charges.

• The fuel surcharge percentage can fluctuate on a weekly basis; www.wm.com/fec.jsp provides the current Fuel Surcharge and DOE average. The actual percentage rate applied to the total project invoice will be determined on the date the load was received.

• Please see profile approval form for special handling instructions. Additional special terms and conditions may be defined on your original quotation.

The work contemplated by this Exhibit A is to be done in accordance with the terms and conditions of the Industrial Waste & Disposal Services Agreement or other contractual agreement between the parties dated: 07/10/2020

YOUR ACCEPTANCE OF THESE TERMS CREATES A BINDING AGREEMENT AS FOLLOWS: (I) TYPE OR SIGN YOUR NAME AND TITLE WHERE INDICATED BELOW OR (II) YOUR TENDER OR DELIVERY TO COMPANY OF THE INDUSTRIAL WASTE DESCRIBED IN THE COMPANY APPROVED PROFILE SHEET AND (IF APPLICABLE) CONFIRMATION LETTER SHALL CONSTITUTE YOUR ACCEPTANCE OF THESE TERMS WITHOUT YOUR SIGNATURE.

COMPANY

By: _____ Date: _____

Name: _____

Title: _____

CUSTOMER

Signature: Andrew Vitolins on behalf of USACE NE District Date: 04/29/2021

Name: Andrew Vitolins

Title: Vice President


NON-HAZARDOUS Waste
NON-HAZARDOUS WASTE
ARCADIS

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NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number:
2. Page 1 of: 1
3. Emergency Response Phone: 1-800-807-7455
4. Waste Tracking Number: SUN - 8089

GENERATOR

5. Generator's Name and Mailing Address:
UNITED STATES ARMY CORPS OF ENGINEERS - NE
2720 LAKEVIEW ROAD
HAMBURG NY 14075
Generator's Phone: 518 520.7359

Generator's Site Address (if different than mailing address): Att. ANDY VITOLINS

6. Transporter 1 Company Name: SUN ENVIRONMENTAL CORP.
U.S. EPA ID Number: NYR000176958

7. Transporter 2 Company Name:
U.S. EPA ID Number:

8. Designated Facility Name and Site Address:
CHAFFEE LANDFILL
10860 OLEAN RD.
CHAFFEE NY 14030
Facility's Phone: 716 492.3420
U.S. EPA ID Number: NYD000517458

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1.	NON-RCRA, NON-DOT REGULATED (SOIL CUTTINGS)	22 ~~0 3 4~~	DM	10,800 ~~10760~~	P
2.			~~DM~~		
3.					
4.					

13. Special Handling Instructions and Additional Information
LINE 1) PROFILE # 123322NY
JOB # WAMA.1051.5349

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: On behalf of USACE NE - Adam Swanson
Signature:
Month: 5 Day: 11 Year: 21

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Cody Limrhein
Signature:
Month: 5 Day: 11 Year: 21

Transporter 2 Printed/Typed Name:
Signature:
Month: Day: Year:

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number:

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month: Day: Year:

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in **Item 17a**

Printed/Typed Name:
Signature:
Month: Day: Year:

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NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number

2. Page 1 of 1

3. Emergency Response Phone: 1-800 807.7455

4. Waste Tracking Number: SUN-8090

5. Generator's Name and Mailing Address
UNITED STATES ARMY CORPS OF ENGINEERS - NE
2729 LAKEVIEW ROAD
HAMBURG NY 14075

Generator's Phone: 518 520 7399

5a. Generator's Site Address (if different than mailing address)
AR ANDOVER, VT 05101

6. Transporter 1 Company Name: SUN ENVIRONMENTAL CORP
U.S. EPA ID Number: NYR000176958

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
CHAFFEE LANDFILL
10860 OLEAN RD
CHAFFEE NY 14030

Facility's Phone: 716 492.3420
U.S. EPA ID Number: NYD000517458

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1	NON-RCRA, NON-DOT REGULATED (GROUNDWATER)	@ 34 024	DM	18,700 ~~10000~~	P
2			Q ~~DM~~		
3					
4					

13. Special Handling Instructions and Additional Information
USE # PROFILE # 123321NY
JOB # WAMA.1051.5349

14. **GENERATOR'S/OFFEROR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: On behalf of USACE-NE Adam Svensson
Signature:
Month: 5 Day: 11 Year: 21

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Cody Kimmel
Signature:
Month: 5 Day: 11 Year: 21

Transporter 2 Printed/Typed Name
Signature
Month: Day: Year:

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) Month: Day: Year:

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name
Signature
Month: Day: Year:

GENERATOR — TRANSPORTER — INT'L — DESIGNATED FACILITY

Appendix I

Risk Assessment Guidance for Superfund (RAGS) Part D Tables and ProUCL Output

RAGS Part D Planning Table 1
Selection of Human Exposure Pathways
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Human Receptor Population	Receptor Age	Exposure Route	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Current / Most Likely Future [a]	On-site Soil	Surface Soil (0-1 ft bgs)	Former Launch Area	Indoor Commercial / Industrial Worker	Adult	Incidental Ingestion	Quantitative	The former Launch Area at the Nike Antiaircraft Missile Battery BU-51/52 (Site) is currently used by the Town of Hamburg's Highway Department for storage, office space, and maintenance. Surface soil (0-1 ft bgs) could be contacted by commercial/industrial workers (indoor workers) at the Site.
						Dermal Contact	None [d]	
						Inhalation (VOCs and Dust)	Quantitative	
				Outdoor Maintenance Worker	Adult	Incidental Ingestion	Quantitative	Surface soil (0-1 ft bgs) could be contacted by maintenance workers who primarily work outdoors at the Site (e.g., Highway Department workers).
						Dermal Contact	Quantitative	
						Inhalation (VOCs and Dust)	Quantitative	
		Surface and Subsurface Soil (0-10 ft bgs)	Former Launch Area	Construction / Utility Worker	Adult	Incidental Ingestion	Quantitative	In the event of intrusive work at the Site, surface and subsurface soils (0-10 ft bgs) could be contacted by construction or utility workers.
						Dermal Contact	Quantitative	
						Inhalation (VOCs and Dust)	Quantitative	
	Groundwater	On-site Aquifer Groundwater	Tapwater	Indoor Commercial / Industrial Worker	Adult	Ingestion	None	Potable water is supplied to the Site by the Erie County Water Authority; therefore, this exposure pathway is currently incomplete.
						Dermal Contact	None	
						Inhalation (VOCs)	None	
		On-site Shallow Groundwater	Indoor Air of on-site Buildings	Indoor Commercial / Industrial Worker	Adult	Inhalation (VOCs)	Quantitative	Commercial/industrial workers (indoor workers) could be exposed to VOCs, if present in underlying groundwater, that migrate from shallow groundwater to indoor air of on-site buildings.
			Excavation / Trench for Utility Work	Construction / Utility Worker	Adult	Incidental Ingestion	Quantitative	Groundwater at the Site is approximately 4 to 10 ft bgs in the overburden and flows south toward Eighteen Mile Creek. Given the shallow depth to groundwater, construction or utility workers may contact shallow groundwater that infiltrates the bottom of an excavation.
						Dermal Contact	Quantitative	
						Inhalation (VOCs)	Quantitative	
		Off-site Aquifer Groundwater	Tapwater in Nearby Residence	Resident	Adult	Ingestion	None	Potable water is currently supplied to nearby residences by the Erie County Water Authority; therefore, this exposure pathway is currently incomplete.
						Dermal Contact	None	
						Inhalation (VOCs)	None	
					Child [c]	Ingestion	None	
						Dermal Contact	None	
						Inhalation (VOCs)	None	
		Off-site Shallow Groundwater	Indoor Air of Nearby Residence	Resident	Adult	Inhalation (VOCs)	Quantitative	Nearby residents could be exposed to VOCs, if present in underlying groundwater, that migrate from shallow groundwater to indoor air of off-site residences.
					Child	Inhalation (VOCs)	Quantitative	

RAGS Part D Planning Table 1
Selection of Human Exposure Pathways
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Human Receptor Population	Receptor Age	Exposure Route	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Hypothetical Future [b]	On-site Soil	Surface and Subsurface Soil (0-10 ft bgs)	Former Launch Area	Future Resident	Adult	Incidental Ingestion	None	Residential use is not considered a reasonable future use of the Site based on the current land use and land ownership, and proximity to the Hamburg Landfill.
						Dermal contact	None	
						Inhalation (Dust)	None	
					Child	Incidental Ingestion	None	
						Dermal contact	None	
						Inhalation (Dust)	None	
	Groundwater	On-site Aquifer Groundwater	Tapwater in on-site Buildings	Indoor Commercial / Industrial Worker	Adult	Ingestion	Quantitative	Although this exposure pathway is currently incomplete, there are no restrictions that would limit future use of the surficial aquifer as a drinking water source.
						Dermal Contact	Quantitative	
						Inhalation (VOCs)	Quantitative	
			Tapwater in Future on-site Residence	Future Resident	Adult	Ingestion	None	Residential use is not considered a reasonable future use of the Site based on the current land use and land ownership, and proximity to the Hamburg Landfill.
						Dermal Contact	None	
						Inhalation (VOCs)	None	
					Child	Ingestion	None	
						Dermal Contact	None	
						Inhalation (VOCs)	None	
		On-site Shallow Groundwater	Indoor Air of Future on-site Residence	Future Resident	Adult	Inhalation (VOCs)	None	Residential use is not considered a reasonable future use of the Site based on the current land use and land ownership, and proximity to the Hamburg Landfill.
					Child	Inhalation (VOCs)	None	
		Off-site Aquifer Groundwater	Tapwater in Nearby Residence	Resident	Adult	Ingestion	Quantitative	Although this exposure pathway is currently incomplete, there are no restrictions that would limit future use of the surficial aquifer as a drinking water source.
						Dermal Contact	Quantitative	
						Inhalation (VOCs)	Quantitative	
					Child	Ingestion	Quantitative	
						Dermal Contact	Quantitative	
						Inhalation (VOCs)	Quantitative	

Notes:
[a] The Current / Most Likely Future scenario considers the current and most likely future land use of the former Launch Area as an industrial site owned by the Town of Hamburg and used by the Highway Department for storage, office space, and maintenance.
[b] The Hypothetical Future scenario considers an additional potential exposure scenario in which the surficial aquifer is used as a drinking water source.
[c] A child is defined as 0 to 6 years of age.
[d] Per current USEPA guidance (USEPA 2021a), the dermal exposure route is not evaluated for indoor commercial/industrial workers.

ft bgs - feet below ground surface.
RAGS - Risk Assessment Guidance for Superfund.
VOCs - volatile organic constituents.
USEPA - United States Environmental Protection Agency.

References:
Town of Hamburg, 2018. Zoning Map. Town of Hamburg, Erie County. https://www.townofhamburgny.com/wp-content/uploads/2018/07/Hamburg-Zoning-with-LWRP-Boundary.pdf
USEPA. 2021a. User's Guide. Regional Screening Levels. Accessed online: https://www.epa.gov/risk/regional-screening-levels-rsls-users-guide.

RAGS Part D Table 2.1
Occurrence, Distribution, and Selection of Chemicals of Potential Concern in Surface Soil (0-1 ft bgs)
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Surface Soil (0-1 ft bgs)

Exposure Point	CASRN	Chemical	Minimum Detected Concentration	Maximum Detected Concentration	Units	Location of Maximum Concentration (1)	Detection Frequency	Range of Detection Limits (LODs)	Concentration Used for Screening (2)	Reference Value (3)	Screening Toxicity Value (4)		COPC Flag (Y/N)	Rationale for Selection or Deletion (5)
Volatile Organic Compounds														
Former Launch Area	95-50-1	1,2-Dichlorobenzene	1.6	1.6	µg/kg	NHFLA-SL11B-A	1 / 22	1.7 - 3.7	1.6	--	180,000	n	N	BSC
	67-64-1	Acetone	6.5	61	µg/kg	NHFLA-MW9OB-A	4 / 22	11 - 17	61	--	6,100,000	n	N	BSC
	75-15-0	Carbon disulfide	0.75	3.0	µg/kg	NHFLA-MW9OB-A	2 / 22	1.7 - 3.4	3.0	--	77,000	n	N	BSC
	75-09-2	Dichloromethane	5.6	29	µg/kg	NHFLA-MW9OB-A	9 / 22	11 - 23	29	--	35,000	n	N	BSC
	108-88-3	Toluene	8.2	8.2	µg/kg	NHFLA-MW9OB-A	1 / 22	1.7 - 3.4	8.2	--	490,000	n	N	BSC
Semi-volatile Organic Compounds														
Former Launch Area	1912-24-9	Atrazine	150	730	µg/kg	NHFLA-SL25-A	3 / 21	230 - 300	730	--	2,400	c	N	BSC
	117-81-7	bis(2-Ethylhexyl)phthalate	370	5,800	µg/kg	NHFLA-MW1OB-A	11 / 22	240 - 3600	5,800	--	39,000	c	N	BSC
	105-60-2	Caprolactam	350	350	µg/kg	NHFLA-MW5OB-A	1 / 22	230 - 300	350	--	3,100,000	n	N	BSC
	86-74-8	Carbazole [6]	710	1,400	µg/kg	NHFLA-MW14-A	2 / 22	230 - 300	1,400	--	240,000	n	N	BSC
	132-64-9	Dibenzofuran	170	340	µg/kg	NHFLA-MW15-A	2 / 22	230 - 300	340	--	7,800	n	N	BSC
Polycyclic Aromatic Hydrocarbons														
Former Launch Area	91-57-6	2-Methylnaphthalene	3.5	42	µg/kg	NHFLA-MW15-A	14 / 22	9.0 - 12	42	<16 (NYS)	24,000	n	N	BSC
	83-32-9	Acenaphthene	6.6	445	µg/kg	NHFLA-MW15-A	11 / 22	9.8 - 12	445	11	360,000	n	N	BSC
	208-96-8	Acenaphthylene [7]	2.9	43	µg/kg	NHFLA-MW6-A	8 / 22	9.3 - 12	43	<36 (NYS)	180,000	n	N	BSC
	120-12-7	Anthracene	1.2	2,900	µg/kg	NHFLA-MW14-A	22 / 22	N/A	2,900	17	1,800,000	n	N	BSC
	56-55-3	Benzo(a)anthracene	3.7	8,500	µg/kg	NHFLA-MW14-A	22 / 22	N/A	8,500	56	1,100	c	Y	ASC
	50-32-8	Benzo(a)pyrene	5.4	9,600	µg/kg	NHFLA-MW14-A	22 / 22	N/A	9,600	43	110	c	Y	ASC
	205-99-2	Benzo(b)fluoranthene	7.7	13,000	µg/kg	NHFLA-MW14-A	22 / 22	N/A	13,000	77	1,100	c	Y	ASC
	191-24-2	Benzo(g,h,i)perylene [7]	25	5,800	µg/kg	NHFLA-MW14-A	20 / 22	9.8 - 24	5,800	24	180,000	n	N	BSC
	207-08-9	Benzo(k)fluoranthene	3.2	5,800	µg/kg	NHFLA-MW14-A	22 / 22	N/A	5,800	24	11,000	c	N	BSC
	218-01-9	Chrysene	6.3	11,000	µg/kg	NHFLA-MW14-A	22 / 22	N/A	11,000	47	110,000	c	N	BSC
	53-70-3	Dibenz(a,h)anthracene	5.5	1,400	µg/kg	NHFLA-MW14-A	21 / 22	9.8 - 9.8	1,400	7.9	110	c	Y	ASC
	206-44-0	Fluoranthene	4.4	22,000	µg/kg	NHFLA-MW14-A	22 / 22	N/A	22,000	160	240,000	n	N	BSC
	86-73-7	Fluorene	3.2	450	µg/kg	NHFLA-MW15-A	17 / 22	9.8 - 12	450	10	240,000	n	N	BSC
	193-39-5	Indeno(1,2,3-cd)pyrene	20	6,000	µg/kg	NHFLA-MW14-A	20 / 22	9.8 - 24	6,000	22	1,100	c	Y	ASC
	91-20-3	Naphthalene	4.2	102	µg/kg	NHFLA-MW15-A	7 / 22	9 - 12	102	<12 (NYS)	2,000	c	N	BSC
	85-01-8	Phenanthrene [7]	3.4	8,400	µg/kg	NHFLA-MW14-A	22 / 22	N/A	8,400	130	180,000	n	N	BSC
	129-00-0	Pyrene	5.7	18,000	µg/kg	NHFLA-MW14-A	22 / 22	N/A	18,000	97	180,000	n	N	BSC
Metals														
Former Launch Area	7429-90-5	Aluminum	6,900	17,600	mg/kg	NHFLA-MW2-A	22 / 22	N/A	17,600	23,400	7,700	n	N	< BTV
	7440-36-0	Antimony	0.22	0.82	mg/kg	NHFLA-MW15-A	7 / 20	0.43 - 2	0.82	0.96	3.1	n	N	BSC, < BTV
	7440-38-2	Arsenic	3.9	16	mg/kg	NHFLA-MW2-A	22 / 22	N/A	16	21	0.68	c	N	< BTV
	7440-39-3	Barium	42	136	mg/kg	NHFLA-MW8-A	22 / 22	N/A	136	122	1,500	n	N	BSC
	7440-41-7	Beryllium	0.44	2.2	mg/kg	NHFLA-MW7OB-A	22 / 22	N/A	2.2	1.6	16	n	N	BSC
	7440-43-9	Cadmium	0.13	0.86	mg/kg	NHFLA-SL27-A	19 / 22	0.27 - 0.56	0.86	1.3	7.1	n	N	BSC, < BTV
	7440-70-2	Calcium	1510	140,000	mg/kg	NHFLA-MW8-A	22 / 22	N/A	140,000	40,500	NA		N	Essential nutrient
	7440-47-3	Chromium [8]	11	54	mg/kg	NHFLA-MW15-A	22 / 22	N/A	54	25	12,000	n	N	BSC
	18540-29-9	Chromium VI	0.25	2.0	mg/kg	NHFLA-SL31-A	6 / 22	0.32 - 1.6	2.0	0.72	0.3	c	Y	ASC
	7440-48-4	Cobalt	2.6	25	mg/kg	NHFLA-MW2-A	22 / 22	N/A	25	18	2.3	n	N	Hyp. Test
	7440-50-8	Copper	15	70	mg/kg	NHFLA-SL11A-A	22 / 22	N/A	70	37	310	n	N	BSC
	7439-89-6	Iron	13,800	35,600	mg/kg	NHFLA-MW2-A	22 / 22	N/A	35,600	47,600	5,500	n	N	< BTV
	7439-92-1	Lead	15	74	mg/kg	NHFLA-MW8-A	22 / 22	N/A	74	38	400		N	BSC
	7439-95-4	Magnesium	1,880	14,800	mg/kg	NHFLA-MW8-A	22 / 22	N/A	14,800	8,980	NA		N	Essential nutrient
	7439-96-5	Manganese	293	1,729	mg/kg	NHFLA-MW15-A	22 / 22	N/A	1,729	773	180	n	Y	ASC
	7439-97-6	Mercury [9]	0.0069	0.38	mg/kg	NHFLA-MW5OB-A	21 / 22	0.019 - 0.019	0.38	0.15	2.3	n	N	BSC
	7440-02-0	Nickel	11	33	mg/kg	NHFLA-MW9OB-A	22 / 22	N/A	33	45	150	n	N	BSC, < BTV
	7440-09-7	Potassium	1,030	2,650	mg/kg	NHFLA-MW9OB-A	22 / 22	N/A	2,650	2,210	NA		N	Essential nutrient
	7782-49-2	Selenium	0.62	64	mg/kg	NHFLA-SL11A-A	20 / 22	1.7 - 2.8	64	2.4	39	n	N	Hyp. Test
	7440-22-4	Silver	0.08	1.5	mg/kg	NHFLA-MW2-A	18 / 22	0.35 - 0.81	1.5	1.1	39	n	N	BSC
	7440-23-5	Sodium	67	1,520	mg/kg	NHFLA-SL11B-A	18 / 22	100 - 220	1,520	109	NA		N	Essential nutrient
	7440-28-0	Thallium	0.14	1.9	mg/kg	NHFLA-MW2-A	12 / 22	0.43 - 2	1.9	1.1	0.078	n	N	Hyp. Test
	7440-62-2	Vanadium	12	47	mg/kg	NHFLA-MW2-A	22 / 22	N/A	47	65	39	n	N	< BTV
	7440-66-6	Zinc	51	631	mg/kg	NHFLA-MW7OB-A	22 / 22	N/A	631	255	2,300	n	N	BSC

Notes:

(1) Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs), "B" to designate first subsurface interval (generally 1 to 3 ft bgs), and "C" to designate second subsurface interval (various depths).

(2) Maximum concentration.

(3) Reference values are background threshold values (BTVs) calculated from reference soil sample data (see Appendix I). Where BTVs are not available because constituents were not detected in the reference soil samples, the reference values are New York State (NYS) background values for source-distant samples collected as part of rural soil survey (NYSDEC, 2005).

(4) The screening toxicity value is the United States Environmental Protection Agency (EPA) Regional Screening Level (RSL) for Residential Soil (EPA, May 2021). EPA RSLs are concentrations associated with (c) a cancer risk level of 1×10^{-6} or (n) a non-cancer hazard quotient (HQ) of 0.1 to account for cumulative risk from exposure to multiple constituents.

(5) Codes used for the "Rationale for Selection or Deletion":

ASC - Above Screening Criterion
BSC - Below Screening Criterion
<BTV - Less Than Background Threshold Value
Hyp. Test - Hypothesis testing indicates site data set is less than or equal to the background data set (see Appendix I).

(6) Screening level for fluorene was used as surrogate for carbazole.

(7) Screening level for pyrene was used as surrogate for acenaphthylene, benzo(g,h,i)perylene and phenanthrene.

(8) Screening level is for chromium III.

(9) Screening level is for mercuric chloride.

CASRN = Chemical Abstracts Service Registry Number.
ft bgs = feet below ground surface.
LOD = limit of detection.
µg/kg = microgram(s) per kilogram.
mg/kg = milligram(s) per kilogram.
N/A or "--" = not applicable.
NA = not available.

RAGS Part D Table 2.2
Occurrence, Distribution, and Selection of Chemicals of Potential Concern in Subsurface Soil (1-10 ft bgs)
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Subsurface Soil (1-10 ft bgs)

Exposure Point	CASRN	Chemical	Minimum Detected Concentration	Maximum Detected Concentration	Units	Location of Maximum Concentration (1)	Detection Frequency	Range of Detection Limits (LODs)	Concentration Used for Screening (2)	Reference Value (3)	Screening Toxicity Value (4)		COPC Flag (Y/N)	Rationale for Selection or Deletion (5)
Volatile Organic Compounds														
Former Launch Area	95-50-1	1,2-Dichlorobenzene	1.6	1.6	µg/kg	NHFLA-SL11B-A	1 / 23	1.6 - 2.9	1.6	--	180,000	n	N	BSC
	78-93-3	2-Butanone	9.7	26	µg/kg	NHFLA-MW8-B	3 / 23	8.3 - 14	26	--	2,700,000	n	N	BSC
	67-64-1	Acetone	5.4	130	µg/kg	NHFLA-MW8-B	10 / 23	8.3 - 14	130	--	6,100,000	n	N	BSC
	71-43-2	Benzene	1.2	3.0	µg/kg	NHFLA-MW12-B	2 / 23	1.6 - 2.9	3.0	--	1,200	c	N	BSC
	75-15-0	Carbon disulfide	0.53	2.3	µg/kg	NHFLA-MW7OB-C	4 / 23	1.9 - 2.9	2.3	--	77,000	n	N	BSC
	110-82-7	Cyclohexane	1.3	7.2	µg/kg	NHFLA-MW12-B	2 / 23	1.9 - 2.9	7.2	--	650,000	n	N	BSC
	75-09-2	Dichloromethane	7.1	12	µg/kg	NHFLA-MW6-B	9 / 23	9.4 - 23.5	12	--	35,000	n	N	BSC
	108-38-3; 106-42-3	m&p-Xylenes [6]	2.4	2.4	µg/kg	NHFLA-MW12-B	1 / 23	3.3 - 5.8	2.4	--	55,000	n	N	BSC
	108-87-2	Methylcyclohexane [7]	1.3	10	µg/kg	NHFLA-MW12-B	5 / 23	1.9 - 2.9	10	--	31,000	n	N	BSC
	1634-04-4	Methyl-tert-butylether	1.5	1.5	µg/kg	NHFLA-MW8-B	1 / 23	1.6 - 4.2	1.5	--	47,000	c	N	BSC
	95-47-6	o-Xylene	1.2	1.2	µg/kg	NHFLA-MW12-B	1 / 23	1.6 - 2.9	1.2	--	65,000	n	N	BSC
	108-88-3	Toluene	3.0	14	µg/kg	NHFLA-MW11-C	6 / 23	1.6 - 2.9	14	--	490,000	n	N	BSC
Semi-volatile Organic Compounds														
Former Launch Area	98-86-2	Acetophenone	680	680	µg/kg	NHFLA-MW11-C	1 / 23	240 - 320	680	--	780,000	n	N	BSC
	1912-24-9	Atrazine	140	140	µg/kg	NHFLA-MW1OB-C	1 / 19	245 - 320	140	--	2,400	c	N	BSC
	100-52-7	Benzaldehyde	4,600	4,600	µg/kg	NHFLA-MW11-C	1 / 23	240 - 320	4600	--	170,000	c	N	BSC
	117-81-7	bis(2-Ethylhexyl)phthalate	710	9,400	µg/kg	NHFLA-MW5OB-B	12 / 23	270 - 9700	9,400	--	39,000	c	N	BSC
	86-74-8	Carbazole [8]	230	250	µg/kg	NHFLA-MW1OB-C	2 / 23	240 - 320	250	--	240,000	n	N	BSC
	132-64-9	Dibenzofuran	110	150	µg/kg	NHFLA-MW1OB-C	2 / 23	240 - 320	150	--	7,800	n	N	BSC
Polycyclic Aromatic Hydrocarbons														
Former Launch Area	91-57-6	2-Methylnaphthalene	2.4	45	µg/kg	NHFLA-MW1OB-C	7 / 23	9.8 - 13	45	<16 (NYS)	24,000	n	N	BSC, < BTV
	83-32-9	Acenaphthene	7.4	146	µg/kg	NHFLA-MW15-B	7 / 23	9.8 - 13	146	5.2	360,000	n	N	BSC
	208-96-8	Acenaphthylene [9]	3.3	42	µg/kg	NHFLA-MW1OB-C	4 / 23	9.8 - 13	42	2.2	180,000	n	N	BSC
	120-12-7	Anthracene	1.2	490	µg/kg	NHFLA-MW1OB-C	17 / 23	11 - 13	490	9.6	1,800,000	n	N	BSC
	56-55-3	Benzo(a)anthracene	3.7	1,100	µg/kg	NHFLA-MW1OB-C	18 / 23	11 - 13	1,100	74	1,100	c	N	BSC
	50-32-8	Benzo(a)pyrene	3.8	1,000	µg/kg	NHFLA-MW1OB-C	20 / 23	12 - 22	1,000	88	110	c	Y	ASC
	205-99-2	Benzo(b)fluoranthene	6.0	1,300	µg/kg	NHFLA-MW1OB-C	21 / 23	11 - 13	1,300	60	1,100	c	Y	ASC
	191-24-2	Benzo(g,h,i)perylene [9]	4.6	530	µg/kg	NHFLA-MW1OB-C	16 / 23	9.8 - 33	530	55	180,000	n	N	BSC
	207-08-9	Benzo(k)fluoranthene	3.2	670	µg/kg	NHFLA-MW1OB-C	16 / 23	11 - 26	670	56	11,000	c	N	BSC
	218-01-9	Chrysene	2.9	1,300	µg/kg	NHFLA-MW1OB-C	21 / 23	11 - 12	1,300	59	110,000	c	N	BSC
	53-70-3	Dibenz(a,h)anthracene	2.7	150	µg/kg	NHFLA-MW1OB-C	13 / 23	9.8 - 13	150	20	110	c	Y	ASC
	206-44-0	Fluoranthene	3.4	2,700	µg/kg	NHFLA-MW1OB-C	21 / 23	11 - 12	2,700	150	240,000	n	N	BSC
	86-73-7	Fluorene	3.8	340	µg/kg	NHFLA-MW1OB-C	10 / 23	9.8 - 13	340	6.2	240,000	n	N	BSC
	193-39-5	Indeno(1,2,3-cd)pyrene	4.2	710	µg/kg	NHFLA-MW1OB-C	16 / 23	9.8 - 45	710	67	1,100	c	N	BSC
	91-20-3	Naphthalene	3.1	54	µg/kg	NHFLA-MW1OB-C	5 / 23	9.8 - 13	54	12 (NYS)	2,000	c	N	BSC, < BTV
	85-01-8	Phenanthrene [9]	2.8	2,400	µg/kg	NHFLA-MW1OB-C	22 / 23	11 - 11	2,400	70	180,000	n	N	BSC
	129-00-0	Pyrene	3.3	2,200	µg/kg	NHFLA-MW1OB-C	21 / 23	11 - 12	2,200	150	180,000	n	N	BSC

RAGS Part D Table 2.2
Occurrence, Distribution, and Selection of Chemicals of Potential Concern in Subsurface Soil (1-10 ft bgs)
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Scenario Timeframe:	Current/Future
Medium:	Soil
Exposure Medium:	Subsurface Soil (1-10 ft bgs)

Exposure Point	CASRN	Chemical	Minimum Detected Concentration	Maximum Detected Concentration	Units	Location of Maximum Concentration (1)	Detection Frequency	Range of Detection Limits (LODs)	Concentration Used for Screening (2)	Reference Value (3)	Screening Toxicity Value (4)		COPC Flag (Y/N)	Rationale for Selection or Deletion (5)
Metals														
Former Launch Area	7429-90-5	Aluminum	10,100	20,300	mg/kg	NHFLA-MW15-C	23 / 23	N/A	20,300	17,800	7,700	n	N	Hyp. Test
	7440-36-0	Antimony	0.14	0.50	mg/kg	NHFLA-MW14-B	10 / 23	0.42 - 1.1	0.50	1.2	3.1	n	N	BSC, < BTV
	7440-38-2	Arsenic	6.7	16	mg/kg	NHFLA-MW2-B	23 / 23	N/A	16	19	0.68	c	N	< BTV
	7440-39-3	Barium	39	143	mg/kg	NHFLA-MW5OB-B	23 / 23	N/A	143	108	1,500	n	N	BSC
	7440-41-7	Beryllium	0.41	1.3	mg/kg	NHFLA-MW12-B	23 / 23	N/A	1.3	1.0	16	n	N	BSC
	7440-43-9	Cadmium	0.057	0.83	mg/kg	NHFLA-MW5OB-B	13 / 23	0.28 - 1.4	0.83	2.9	7.1	n	N	BSC, < BTV
	7440-70-2	Calcium	275	87,200	mg/kg	NHFLA-MW16-B	23 / 23	N/A	87,200	84,000	NA		N	Essential nutrient
	7440-47-3	Chromium [10]	13	24	mg/kg	NHFLA-MW5OB-B	23 / 23	N/A	24	22	12,000	n	N	BSC
	18540-29-9	Chromium VI	0.17	0.98	mg/kg	NHFLA-MW9OB-B	9 / 23	0.32 - 0.72	0.98	0.42	0.3	c	N	Hyp. Test
	7440-48-4	Cobalt	2.5	12	mg/kg	NHFLA-MW5OB-B	23 / 23	N/A	12	21	2.3	n	N	< BTV
	7440-50-8	Copper	18	46	mg/kg	NHFLA-MW9OB-B	23 / 23	N/A	46	52	310	n	N	BSC, < BTV
	7439-89-6	Iron	16,600	36,200	mg/kg	NHFLA-MW15-C	23 / 23	N/A	36,200	52,200	5,500	n	N	< BTV
	7439-92-1	Lead	10	36	mg/kg	NHFLA-MW16-B	23 / 23	N/A	36	32	400		N	BSC
	7439-95-4	Magnesium	1,540	17,600	mg/kg	NHFLA-MW16-B	23 / 23	N/A	17,600	10,900	NA		N	Essential nutrient
	7439-96-5	Manganese	36	1,170	mg/kg	NHFLA-MW12-B	23 / 23	N/A	1,170	2,410	180	n	N	< BTV
	7439-97-6	Mercury [11]	0.018	0.13	mg/kg	NHFLA-MW15-C	23 / 23	N/A	0.38	0.13	2.3	n	N	BSC
	7440-02-0	Nickel	15	53	mg/kg	NHFLA-MW5OB-B	23 / 23	N/A	53	77	150	n	N	BSC, < BTV
	7440-09-7	Potassium	1,360	2,630	mg/kg	NHFLA-MW2-B	23 / 23	N/A	2,630	2,690	NA		N	Essential nutrient
	7782-49-2	Selenium	0.51	2.6	mg/kg	NHFLA-MW2-B	21 / 23	1.7 - 3.2	2.6	3.5	39	n	N	BSC, < BTV
	7440-22-4	Silver	0.14	1.5	mg/kg	NHFLA-MW2-B	20 / 23	0.38 - 0.7	1.5	1.1	39	n	N	BSC
	7440-23-5	Sodium	84	1,520	mg/kg	NHFLA-SL11B-A	22 / 23	93 - 93	1,520	130	NA		N	Essential nutrient
	7440-28-0	Thallium	0.096	4.1	mg/kg	NHFLA-MW15-C	16 / 23	0.42 - 1	4.1	1.2	0.078	n	N	Hyp. Test
	7440-62-2	Vanadium	17	43	mg/kg	NHFLA-MW5OB-B	23 / 23	N/A	43	46	39	n	N	< BTV
	7440-66-6	Zinc	40	162	mg/kg	NHFLA-MW1OB-C	23 / 23	N/A	162	362	2,300	n	N	BSC, < BTV

Notes:
(1) Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs), "B" to designate first subsurface interval (generally 1 to 3 ft bgs), and "C" to designate second subsurface interval (various depths).
(2) Maximum concentration.
(3) Reference values are background threshold values (BTVs) calculated from reference soil sample data (see Appendix I). Where BTVs are not available because constituents were not detected in the reference soil samples, the reference values are New York State (NYS) background values for source-distant samples collected as part of rural soil survey (NYSDEC, 2005).
(4) The screening toxicity value is the United States Environmental Protection Agency (EPA) Regional Screening Level (RSL) for Residential Soil (EPA, May 2021). EPA RSLs are concentrations associated with (c) a cancer risk level of 1×10^{-6} or (n) a non-cancer hazard quotient (HQ) of 0.1 to account for cumulative risk from exposure to multiple constituents.
(5) Codes used for the "Rationale for Selection or Deletion":
ASC - Above Screening Criterion
BSC - Below Screening Criterion
<BTV - Less Than Background Threshold Value
Hyp. Test - Hypothesis testing indicates site data set is less than or equal to the background data set (see Appendix I).
(6) Screening level is for m-xylenes.
(7) Screening level is for cyclohexane.
(8) Screening level for fluorene was used as surrogate for carbazole.
(9) Screening level for pyrene was used as surrogate for acenaphthylene, benzo(g,h,i)perylene and phenanthrene.
(10) Screening level is for chromium III.
(11) Screening level is for mercuric chloride.

CASRN = Chemical Abstracts Service Registry Number.
ft bgs = feet below ground surface.
LOD = limit of detection.
µg/kg = microgram(s) per kilogram.
mg/kg = milligram(s) per kilogram.
N/A or "--" = not applicable.
NA = not available.

RAGS Part D Table 2.3
Occurrence, Distribution, and Selection of Chemicals of Potential Concern in Overburden and Bedrock Groundwater
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Scenario Timeframe:	Current/Future
Medium:	Groundwater
Exposure Medium:	Overburden and Bedrock Groundwater

Exposure Point	CASRN	Chemical	Minimum Concentration	Maximum Concentration	Units	Location of Maximum Concentration	Detection Frequency			Range of Detection Limits			Concentration Used for Screening (1)	Background Value (2)	Screening Toxicity Value (3)		COPC Flag (Y/N)	Rationale for Selection or Deletion (4)
Volatile Organic Compounds																		
	78-93-3	2-Butanone (MEK)	1.5	60	µg/L	NHFLA-MW5BR-SEP2020	2	/	39	2.5	-	2.5	60	NA	560	nc	N	BSC
	591-78-6	2-Hexanone	4.0	4.0	µg/L	NHFLA-MW5BR-SEP2020	1	/	39	2.5	-	2.5	4.0	NA	3.8	nc	Y	ASC
	67-64-1	Acetone	2.9	120	µg/L	NHFLA-MW5BR-SEP2020	7	/	39	2.5	-	26	120	11.0	1400	nc	N	BSC
	71-43-2	Benzene	0.33	210	µg/L	NHFLA-MW5BR-SEP2020	8	/	39	0.5	-	0.5	210	NA	0.46	c	Y	ASC
	75-15-0	Carbon disulfide	0.27	0.47	µg/L	NHFLA-MW5OB-SEP2020	2	/	39	0.5	-	1	0.47	NA	81	nc	N	BSC
	67-66-3	Chloroform	2.2	2.2	µg/L	NHFLA-MW5BR-SEP2020	1	/	39	0.5	-	0.5	2.2	NA	0.22	c	Y	ASC
	74-87-3	Chloromethane	1.4	6.0	µg/L	NHFLA-MW9BR-DEC2020	3	/	39	1	-	1	6.0	NA	19	nc	N	BSC
	110-82-7	Cyclohexane	0.65	110	µg/L	NHFLA-MW5BR-SEP2020	19	/	39	0.5	-	0.5	110	NA	1300	nc	N	BSC
	100-41-4	Ethylbenzene	0.30	11	µg/L	NHFLA-MW5BR-SEP2020	10	/	39	0.5	-	0.5	11	NA	1.5	c	Y	ASC
	98-82-8	Isopropylbenzene (Cumene)	0.27	3.0	µg/L	NHFLA-MW5BR-SEP2020	4	/	39	0.5	-	0.5	3.0	NA	45	nc	N	BSC
	ARC-mpXyl	m,p-Xylene[5]	0.73	7.5	µg/L	NHFLA-MW5OB-SEP2020	8	/	39	1	-	1	7.5	NA	19	nc	N	BSC
	108-87-2	Methylcyclohexane[6]	0.55	66	µg/L	NHFLA-MW5BR-SEP2020	24	/	39	0.5	-	0.5	66	NA	1300	nc	N	BSC
	75-09-2	Methylene chloride	1.7	2.0	µg/L	NHFLA-MW9OB-SEP2020	3	/	39	2.5	-	2.5	2.0	NA	11	nc	N	BSC
	95-47-6	o-Xylene	0.37	50	µg/L	NHFLA-MW5BR-SEP2020	9	/	39	0.5	-	0.5	50	NA	19	nc	Y	ASC
	108-88-3	Toluene	3.8	31	µg/L	NHFLA-MW5BR-SEP2020	5	/	39	0.5	-	1	31	NA	110	nc	N	BSC
	79-01-6	Trichloroethene (TCE)	0.37	0.41	µg/L	NHFLA-MW9OB-DEC2020	2	/	39	0.5	-	0.5	0.41	NA	0.28	nc	Y	ASC
Semi-Volatile Organic Compounds																		
	91-57-6	2-Methylnaphthalene	0.11	14	µg/L	NHFLA-MW5BR-SEP2020	13	/	39	0.093	-	0.195	14	0.16	3.6	nc	Y	ASC
	95-48-7	2-Methylphenol (o-Cresol)	6.1	6.1	µg/L	NHFLA-MW5BR-SEP2020	1	/	29	7	-	8.4	6.1	NA	93	nc	N	BSC
	83-32-9	Acenaphthene	0.11	0.11	µg/L	NHFLA-MW9BR-DEC2020	1	/	39	0.093	-	0.11	0.11	NA	53	nc	N	BSC
	120-12-7	Anthracene	0.13	0.62	µg/L	NHFLA-MW5BR-SEP2020	2	/	39	0.093	-	0.1	0.62	NA	180	nc	N	BSC
	56-55-3	Benzo(a)anthracene	0.044	0.15	µg/L	NHFLA-MW5BR-SEP2020	3	/	39	0.093	-	0.11	0.15	NA	0.03	c	Y	ASC
	50-32-8	Benzo(a)pyrene	0.073	0.082	µg/L	NHFLA-MW4BR-DEC2020	2	/	39	0.093	-	0.11	0.08	NA	0.025	c	Y	ASC
	191-24-2	Benzo(g,h,i)perylene[7]	0.11	0.12	µg/L	NHFLA-MW5BR-SEP2020	2	/	39	0.093	-	0.11	0.12	NA	12	nc	N	BSC
	207-08-9	Benzo(k)fluoranthene	0.15	0.15	µg/L	NHFLA-MW5BR-SEP2020	1	/	39	0.093	-	0.11	0.15	NA	2.5	c	N	BSC
	117-81-7	Bis(2-ethylhexyl)phthalate	1.9	28	µg/L	NHFLA-MW4OB-DEC2020	4	/	39	7	-	8.4	28	2.2	5.6	c	Y	ASC
	218-01-9	Chrysene	0.039	1.6	µg/L	NHFLA-MW5BR-SEP2020	3	/	39	0.093	-	0.21	1.6	NA	25	c	N	BSC
	206-44-0	Fluoranthene	0.10	0.39	µg/L	NHFLA-MW5BR-SEP2020	3	/	39	0.093	-	0.1	0.39	NA	80	nc	N	BSC
	86-73-7	Fluorene	0.28	1.1	µg/L	NHFLA-MW5BR-SEP2020	2	/	39	0.093	-	0.1	1.1	NA	29	nc	N	BSC
	193-39-5	Indeno(1,2,3-c,d)pyrene	0.067	0.072	µg/L	NHFLA-MW11-DEC2020	2	/	39	0.093	-	0.11	0.07	NA	0.25	c	N	BSC
	91-20-3	Naphthalene	0.24	4.3	µg/L	NHFLA-MW5BR-SEP2020	3	/	39	0.093	-	0.11	4.3	NA	0.12	c	Y	ASC
	85-01-8	Phenanthrene[7]	0.058	4.9	µg/L	NHFLA-MW5BR-SEP2020	6	/	39	0.093	-	0.1	4.9	0.05	12	nc	N	BSC
	108-95-2	Phenol	9.9	9.9	µg/L	NHFLA-MW5BR-SEP2020	1	/	23	7	-	8.4	9.9	NA	580	nc	N	BSC
	129-00-0	Pyrene	0.057	0.85	µg/L	NHFLA-MW5BR-SEP2020	7	/	39	0.093	-	0.1	0.85	NA	12	nc	N	BSC

RAGS Part D Table 2.3
Occurrence, Distribution, and Selection of Chemicals of Potential Concern in Overburden and Bedrock Groundwater
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Scenario Timeframe:	Current/Future
Medium:	Groundwater
Exposure Medium:	Overburden and Bedrock Groundwater

Exposure Point	CASRN	Chemical	Minimum Concentration	Maximum Concentration	Units	Location of Maximum Concentration	Detection Frequency			Range of Detection Limits			Concentration Used for Screening (1)	Background Value (2)	Screening Toxicity Value (3)		COPC Flag (Y/N)	Rationale for Selection or Deletion (4)
Inorganics (total)																		
Former Launch Area	7429-90-5	Aluminum	95	6,260	µg/L	NHFLA-MW4BR-SEP2020	25	/	39	40	-	100	6,260	351	2000	nc	Y	ASC
	7440-36-0	Antimony	0.058	9.0	µg/L	NHFLA-MW5BR-SEP2020	22	/	39	0.5	-	1	9.0	0.14	0.78	nc	Y	ASC
	7440-38-2	Arsenic	2.4	6.0	µg/L	NHFLA-MW4BR-SEP2020	6	/	39	4	-	4	6.0	18	0.052	c	N	< BG
	7440-39-3	Barium	15	1,280	µg/L	NHFLA-MW-5OB-DEC2020	39	/	39	NA	-	NA	1,280	676	380	nc	Y	ASC
	7440-41-7	Beryllium	0.036	0.37	µg/L	NHFLA-MW4BR-SEP2020	12	/	39	0.2	-	2	0.37	NA	2.5	nc	N	BSC
	7440-43-9	Cadmium	0.03	0.48	µg/L	NHFLA-MW4BR-SEP2020	15	/	39	0.2	-	0.2	0.48	0.69	0.92		N	BSC
	7440-70-2	Calcium	3,790	264,000	µg/L	NHFLA-MW3-SEP2020	39	/	39	NA	-	NA	264,000	522,000	NA		N	Essential nutrient
	7440-47-3	Chromium[8]	0.29	9.9	µg/L	NHFLA-MW4BR-SEP2020	11	/	39	4	-	5	9.9	1.5	2200	nc	N	BSC
	7440-48-4	Cobalt	0.078	16	µg/L	NHFLA-MW3-DEC2020	25	/	39	0.3	-	1	16.3	19	0.6	nc	N	< BG
	7440-50-8	Copper	3.1	19	µg/L	NHFLA-MW4BR-SEP2020	11	/	39	2	-	5.2	18.7	5.6	80	nc	N	BSC
	7439-89-6	Iron	54	39,700	µg/L	NHFLA-MW1OB-SEP2020	38	/	39	100	-	100	39,700	43,600	1400	nc	N	< BG
	7439-92-1	Lead	0.077	5.5	µg/L	NHFLA-MW4BR-SEP2020	21	/	39	0.5	-	1	5.5	0.15	15	c	N	BSC
	7439-95-4	Magnesium	584	81,500	µg/L	NHFLA-MW3-SEP2020	39	/	39	NA	-	NA	81,500	103,000	NA		N	Essential nutrient
	7439-96-5	Manganese	5.9	5,440	µg/L	NHFLA-MW3-SEP2020	39	/	39	NA	-	NA	5,440	5,620	43	nc	N	< BG
	7439-97-6	Mercury[9]	0.017	0.21	µg/L	NHFLA-MW4BR-DEC2020	3	/	39	0.1	-	0.2	0.21	NA	0.57	nc	N	BSC
	7440-02-0	Nickel	0.20	58	µg/L	NHFLA-MW3-DEC2020	34	/	39	1.2	-	1.2	58	43	39	nc	Y	ASC
	7440-09-7	Potassium	1,180	22,900	µg/L	NHFLA-MW5BR-SEP2020	39	/	39	NA	-	NA	22,900	200,000	NA		N	Essential nutrient
	7782-49-2	Selenium	0.19	6.2	µg/L	NHFLA-MW12-DEC2020	33	/	39	3	-	3	6.2	0.69	10	nc	N	BSC
	7440-22-4	Silver	0.061	0.061	µg/L	NHFLA-MW4BR-SEP2020	1	/	39	0.4	-	0.4	0.06	NA	9.4	nc	N	BSC
	7440-23-5	Sodium	41,300	2,720,000	µg/L	NHFLA-MW3-SEP2020	39	/	39	NA	-	NA	2,720,000	315,000	NA		N	Essential nutrient
	7440-28-0	Thallium	0.063	1.4	µg/L	NHFLA-MW4BR-SEP2020	20	/	39	0.4	-	0.4	1.4	0.82	0.02	nc	Y	ASC
	7440-62-2	Vanadium	0.63	24	µg/L	NHFLA-MW4BR-SEP2020	32	/	39	4	-	4	24	13	8.6	nc	Y	ASC
	7440-66-6	Zinc	4.0	72	µg/L	NHFLA-MW3-DEC2020	19	/	39	8	-	10	72	9.3	600	nc	N	BSC
Inorganics (dissolved)																		
Former Launch Area	18540-29-9	Chromium, Hexavalent	0.95	3.3	µg/L	NHFLA-MW8-DEC2020	6	/	34	12.5	-	25	3.3	NA	0.035	c	Y	ASC

Notes:
(1) Maximum concentration.
(2) Background values are maximum detected concentrations in upgradient well MW-16.
(3) The screening toxicity value is the United States Environmental Protection Agency (EPA) Regional Screening Level (RSL) for Tapwater (EPA, May 2021). The EPA RSLs are based on either a target cancer risk of $1x10^{-6}$ or a noncancer hazard quotient (HQ) of 0.1.
(4) Codes used for the "Rationale for Selection or Deletion":
ASC - Above Screening Criterion
BSC - Below Screening Criterion
NSC - No Screening Criterion
< BG - Maximum concentration is less than the background value.
(5) Screening level is for m-xylenes.
(6) Screening level is for cyclohexane.
(7) Screening level for pyrene was used as surrogate for benzo(g,h,i)perylene and phenanthrene.
(8) Screening level is for chromium III.
(9) Screening level is for mercuric chloride.

CASRN = Chemical Abstracts Service Registry Number.
µg/L = microgram(s) per liter.
NA = not applicable.

RAGS Part D Table 2.4
Occurrence, Distribution, and Selection of Chemicals of Potential Concern in Overburden Groundwater - Construction / Utility Worker Scenario
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Scenario Timeframe:	Current/Future
Medium:	Groundwater
Exposure Medium:	Overburden Groundwater

Exposure Point	CASRN	Chemical	Minimum Concentration	Maximum Concentration	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (1)	Background Value (2)	Screening Toxicity Value (3)		COPC Flag (Y/N)	Rationale for Selection or Deletion (4)
Volatile Organic Compounds														
	78-93-3	2-Butanone (MEK)	1.5	1.5	µg/L	NHFLA-MW2-SEP2020	1 / 30	2.5 - 2.5	1.5	NA	560	nc	N	BSC
	67-64-1	Acetone	2.9	5.3	µg/L	NHFLA-MW9OB-DEC2020	4 / 30	2.5 - 5	5.3	11	1,400	nc	N	BSC
	71-43-2	Benzene	0.33	5.1	µg/L	NHFLA-MW5OB-SEP2020	3 / 30	0.5 - 0.5	5.1	NA	0.46	c	Y	ASC
	75-15-0	Carbon disulfide	0.27	0.47	µg/L	NHFLA-MW5OB-SEP2020	2 / 30	0.5 - 0.5	0.47	NA	81	nc	N	BSC
	74-87-3	Chloromethane	1.4	1.4	µg/L	NHFLA-MW-5OB-DEC2020	1 / 30	1 - 1	1.4	NA	19	nc	N	BSC
	110-82-7	Cyclohexane	0.65	20	µg/L	NHFLA-MW5OB-SEP2020	11 / 30	0.5 - 0.5	20	NA	1,300	nc	N	BSC
	100-41-4	Ethylbenzene	0.30	3.1	µg/L	NHFLA-MW5OB-SEP2020	3 / 30	0.5 - 0.5	3.1	NA	1.5	c	Y	ASC
	98-82-8	Isopropylbenzene (Cumene)	0.58	0.58	µg/L	NHFLA-MW5OB-SEP2020	1 / 30	0.5 - 0.5	0.58	NA	45	nc	N	BSC
	ARC-mpXyl	m,p-Xylene[5]	0.73	7.5	µg/L	NHFLA-MW5OB-SEP2020	3 / 30	1 - 1	7.5	NA	19	nc	N	BSC
	108-87-2	Methylcyclohexane[6]	0.71	18	µg/L	NHFLA-MW5OB-SEP2020	15 / 30	0.5 - 0.5	18	NA	1,300	nc	N	BSC
	75-09-2	Methylene chloride	1.7	2.0	µg/L	NHFLA-MW9OB-SEP2020	3 / 30	2.5 - 2.5	2.0	NA	11	nc	N	BSC
	95-47-6	o-Xylene	0.74	5.1	µg/L	NHFLA-MW5OB-SEP2020	3 / 30	0.5 - 0.5	5.1	NA	19	nc	N	BSC
	108-88-3	Toluene	3.8	12	µg/L	NHFLA-MW5OB-SEP2020	2 / 30	0.5 - 0.5	12	NA	110	nc	N	BSC
	79-01-6	Trichloroethene (TCE)	0.37	0.41	µg/L	NHFLA-MW9OB-DEC2020	2 / 30	0.5 - 0.5	0.41	NA	0.28	nc	Y	ASC
Semi-Volatile Organic Compounds														
	91-57-6	2-Methylnaphthalene	0.11	0.32	µg/L	NHFLA-MW5OB-SEP2020	8 / 30	0.093 - 0.1	0.32	0.16	3.6	nc	N	BSC
	56-55-3	Benzo(a)anthracene	0.044	0.044	µg/L	NHFLA-MW11-DEC2020	1 / 30	0.093 - 0.1	0.044	NA	0.03	c	Y	ASC
	191-24-2	Benzo(g,h,i)perylene[7]	0.11	0.11	µg/L	NHFLA-MW11-DEC2020	1 / 30	0.093 - 0.1	0.11	NA	12	nc	N	BSC
	117-81-7	Bis(2-ethylhexyl)phthalate	28	28	µg/L	NHFLA-MW4OB-DEC2020	1 / 30	7 - 7.7	28	2.2	5.6	c	Y	ASC
	218-01-9	Chrysene	0.039	0.039	µg/L	NHFLA-MW14-SEP2020	1 / 30	0.093 - 0.1	0.039	NA	25	c	N	BSC
	193-39-5	Indeno(1,2,3-c,d)pyrene	0.072	0.072	µg/L	NHFLA-MW11-DEC2020	1 / 30	0.093 - 0.1	0.072	NA	0.25	c	N	BSC
	91-20-3	Naphthalene	0.33	0.33	µg/L	NHFLA-MW1OB-SEP2020	1 / 30	0.093 - 0.1	0.33	NA	0.12	c	Y	ASC
	85-01-8	Phenanthrene[7]	0.058	0.075	µg/L	NHFLA-MW6-SEP2020	2 / 30	0.093 - 0.1	0.075	0.048	12	nc	N	BSC
	129-00-0	Pyrene	0.057	0.084	µg/L	NHFLA-MW11-DEC2020	3 / 30	0.093 - 0.1	0.084	NA	12	nc	N	BSC
Inorganics (total)														
Former Launch Area	7429-90-5	Aluminum	95	3,640	µg/L	NHFLA-MW12-SEP2020	19 / 30	40 - 100	3,640	351	2,000	nc	Y	ASC
	7440-36-0	Antimony	0.058	0.32	µg/L	NHFLA-MW3-DEC2020	13 / 30	0.5 - 1	0.32	0.14	0.78	nc	N	BSC
	7440-38-2	Arsenic	2.4	3.8	µg/L	NHFLA-MW12-SEP2020	4 / 30	4 - 4	3.8	18	0.052	c	N	< BG
	7440-39-3	Barium	15	1,280	µg/L	NHFLA-MW-5OB-DEC2020	30 / 30	NA - NA	1,280	676	380	nc	Y	ASC
	7440-41-7	Beryllium	0.037	0.20	µg/L	NHFLA-MW8-DEC2020	9 / 30	0.2 - 2	0.20	NA	2.5	nc	N	BSC
	7440-43-9	Cadmium	0.042	0.33	µg/L	NHFLA-MW11-DEC2020	11 / 30	0.2 - 0.2	0.33	0.69	0.92		N	BSC
	7440-70-2	Calcium	4,635	264,000	µg/L	NHFLA-MW3-SEP2020	30 / 30	NA - NA	264,000	522,000	NA		N	Essential nutrient
	7440-47-3	Chromium[8]	0.29	5.5	µg/L	NHFLA-MW12-SEP2020	9 / 30	4 - 5	5.5	1.5	2,200	nc	N	BSC
	7440-48-4	Cobalt	0.078	16	µg/L	NHFLA-MW3-DEC2020	21 / 30	0.3 - 1	16.3	19	0.6	nc	N	< BG
	7440-50-8	Copper	3.1	17	µg/L	NHFLA-MW11-SEP2020	8 / 30	2 - 3	16.8	5.6	80	nc	N	BSC
	7439-89-6	Iron	54	39,700	µg/L	NHFLA-MW1OB-SEP2020	30 / 30	NA - NA	39,700	43,600	1,400	nc	N	< BG
	7439-92-1	Lead	0.077	3.4	µg/L	NHFLA-MW12-SEP2020	15 / 30	0.5 - 1	3.4	0.15	15	c	N	BSC
	7439-95-4	Magnesium	702	81,500	µg/L	NHFLA-MW3-SEP2020	30 / 30	NA - NA	81,500	103,000	NA		N	Essential nutrient
	7439-96-5	Manganese	5.9	5,440	µg/L	NHFLA-MW3-SEP2020	30 / 30	NA - NA	5,440	5,620	43	nc	N	< BG
	7439-97-6	Mercury[9]	0.017	0.017	µg/L	NHFLA-MW11-SEP2020	1 / 30	0.1 - 0.2	0.017	NA	0.57	nc	N	BSC
	7440-02-0	Nickel	0.20	58	µg/L	NHFLA-MW3-DEC2020	28 / 30	1.2 - 1.2	58	43	39	nc	Y	ASC
	7440-09-7	Potassium	1,520	22,200	µg/L	NHFLA-MW3-SEP2020	30 / 30	NA - NA	22,200	200,000	NA		N	Essential nutrient
	7782-49-2	Selenium	0.19	6.2	µg/L	NHFLA-MW12-DEC2020	25 / 30	3 - 3	6.2	0.69	10	nc	N	BSC
	7440-23-5	Sodium	70,300	2,720,000	µg/L	NHFLA-MW3-SEP2020	30 / 30	NA - NA	2,720,000	315,000	NA		N	Essential nutrient
	7440-28-0	Thallium	0.063	1.3	µg/L	NHFLA-MW3-DEC2020	17 / 30	0.4 - 0.4	1.3	0.82	0.02	nc	Y	ASC
	7440-62-2	Vanadium	0.63	12	µg/L	NHFLA-MW12-SEP2020	24 / 30	4 - 4	12	13	8.6	nc	N	< BG
	7440-66-6	Zinc	4.0	72	µg/L	NHFLA-MW3-DEC2020	17 / 30	8 - 8	72	9.3	600	nc	N	BSC
Inorganics (dissolved)														
Former Launch Area	18540-29-9	Chromium, Hexavalent	1.5	3.3	µg/L	NHFLA-MW8-DEC2020	4 / 26	12.5 - 25	3.3	NA	0.035	c	Y	ASC

Notes:

(1) Maximum concentration.

(2) Background values are maximum detected concentrations in upgradient well MW-16.

(3) The screening toxicity value is the United States Environmental Protection Agency (EPA) Regional Screening Level (RSL) for Tapwater (EPA, May 2021). The EPA RSLs are based on either a target cancer risk of $1x10^{-6}$ or a noncancer hazard quotient (HQ) of 0.1.

(4) Codes used for the "Rationale for Selection or Deletion":
ASC - Above Screening Criterion
BSC - Below Screening Criterion
NSC - No Screening Criterion
< BG - Maximum concentration is less than the background value.

(5) Screening level is for m-xylenes.

(6) Screening level is for cyclohexane.

(7) Screening level for pyrene was used as surrogate for benzo(g,h,i)perylene and phenanthrene.

(8) Screening level is for chromium III.

(9) Screening level is for mercuric chloride.

CASRN = Chemical Abstracts Service Registry Number.
µg/L = microgram(s) per liter.
NA = not applicable.

RAGS Part D Table 2.5
Occurrence, Distribution, and Selection of Chemicals of Potential Concern in Overburden Groundwater - Vapor Intrusion to Commercial/Industrial Indoor Air
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Scenario Timeframe:	Current/Future
Medium:	Groundwater
Exposure Medium:	Overburden Groundwater

Exposure Point	CASRN	Chemical	Minimum Concentration	Maximum Concentration	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration Used for Screening (1)	Screening Toxicity Value (2)		COPC Flag (Y/N)	Rationale for Selection or Deletion (3)
Volatile Organic Compounds													
Former Launch Area	78-93-3	2-Butanone	1.5	1.5	µg/L	NHFLA-MW2-SEP2020	1 / 30	2.5 - 2.5	1.50	1,350,000	NC	N	BSC
	67-64-1	Acetone	2.9	5.3	µg/L	NHFLA-MW9OB-DEC2020	4 / 30	2.5 - 5	5.30	13,000,000	NC	N	BSC
	71-43-2	Benzene	0.33	5.1	µg/L	NHFLA-MW5OB-SEP2020	3 / 30	0.5 - 0.5	5.10	9.81	CA	N	BSC
	75-15-0	Carbon disulfide	0.265	0.47	µg/L	NHFLA-MW5OB-SEP2020	2 / 30	0.5 - 0.5	0.47	690	NC	N	BSC
	74-87-3	Chloromethane	1.4	1.4	µg/L	NHFLA-MW-5OB-DEC2020	1 / 30	1 - 1	1.40	132	NC	N	BSC
	110-82-7	Cyclohexane	0.65	20	µg/L	NHFLA-MW5OB-SEP2020	11 / 30	0.5 - 0.5	20.00	603	NC	N	BSC
	100-41-4	Ethylbenzene	0.3	3.1	µg/L	NHFLA-MW5OB-SEP2020	3 / 30	0.5 - 0.5	3.10	23.7	CA	N	BSC
	98-82-8	Isopropylbenzene	0.58	0.58	µg/L	NHFLA-MW5OB-SEP2020	1 / 30	0.5 - 0.5	0.58	650	NC	N	BSC
	ARC-mpXyl	m,p-Xylene [4]	0.73	7.5	µg/L	NHFLA-MW5OB-SEP2020	3 / 30	1 - 1	7.50	233	NC	N	BSC
	108-87-2	Methylcyclohexane	0.71	18	µg/L	NHFLA-MW5OB-SEP2020	15 / 30	0.5 - 0.5	18.00	603	NC	N	BSC
	75-09-2	Methylene chloride	1.7	2	µg/L	NHFLA-MW9OB-SEP2020	3 / 30	2.5 - 2.5	2.00	2,660	NC	N	BSC
	95-47-6	o-Xylene	0.74	5.1	µg/L	NHFLA-MW5OB-SEP2020	3 / 30	0.5 - 0.5	5.10	326	NC	N	BSC
	108-88-3	Toluene	3.8	12	µg/L	NHFLA-MW5OB-SEP2020	2 / 30	0.5 - 0.5	12.00	12,000	NC	N	BSC
	79-01-6	Trichloroethene	0.37	0.41	µg/L	NHFLA-MW9OB-DEC2020	2 / 30	0.5 - 0.5	0.41	3.12	NC	N	BSC
Semi-Volatile Organic Compounds													
Former Launch Area	91-57-6	2-Methylnaphthalene	0.11	0.32	µg/L	NHFLA-MW5OB-SEP2020	8 / 30	0.093 - 0.1	0.320	35.4	CA	N	BSC
	56-55-3	Benzo(a)anthracene	0.044	0.044	µg/L	NHFLA-MW11-DEC2020	1 / 30	0.093 - 0.1	0.04	1,210	CA	N	BSC
	91-20-3	Naphthalene	0.33	0.33	µg/L	NHFLA-MW1OB-SEP2020	1 / 30	0.093 - 0.1	0.33	35.4	CA	N	BSC

Notes:

(1) Maximum concentration.

(2) The screening toxicity value is the United States Environmental Protection Agency (EPA) Vapor Intrusion Screening Level (VISL) for Commercial exposure scenario. VISLs are based on either a target cancer risk of 1×10^{-6} or a noncancer hazard quotient (HQ) of 0.1 to account for cumulative risk from exposure to multiple constituents.

(3) Codes used for the "Rationale for Selection or Deletion":

ASC - Above Screening Criterion

BSC - Below Screening Criterion

(4) Screening level is for m-xylenes.

CASRN = Chemical Abstracts Service Registry Number.

µg/L = microgram(s) per liter.

NA = not applicable.

RAGS Part D Table 2.6
Occurrence, Distribution, and Selection of Chemicals of Potential Concern in Overburden Groundwater - Vapor Intrusion to Residential Indoor Air
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Scenario Timeframe:	Current/Future
Medium:	Groundwater
Exposure Medium:	Overburden Groundwater (MW-5OB, -7OB, -13, -14, and -15)

Exposure Point	CASRN	Chemical	Minimum Concentration	Maximum Concentration	Units	Location of Maximum Concentration	Detection Frequency			Range of Detection Limits			Concentration Used for Screening (1)	Screening Toxicity Value (2)		COPC Flag (Y/N)	Rationale for Selection or Deletion (3)
Volatile Organic Compounds																	
Nearby Residence	67-64-1	Acetone	2.9	2.9	µg/L	NHFLA-MW15-SEP2020	1	/	10	2.5	-	5	2.90	3,100,000	NC	N	BSC
	71-43-2	Benzene	0.33	5.1	µg/L	NHFLA-MW5OB-SEP2020	3	/	10	0.5	-	0.5	5.10	2.25	CA	Y	ASC
	75-15-0	Carbon disulfide	0.47	0.47	µg/L	NHFLA-MW5OB-SEP2020	1	/	10	0.5	-	0.5	0.47	164	NC	N	BSC
	74-87-3	Chloromethane	1.4	1.4	µg/L	NHFLA-MW-5OB-DEC2020	1	/	10	1	-	1	1.40	31.5	NC	N	BSC
	110-82-7	Cyclohexane	5.55	20	µg/L	NHFLA-MW5OB-SEP2020	3	/	10	0.5	-	0.5	20.00	143	NC	N	BSC
	100-41-4	Ethylbenzene	0.3	3.1	µg/L	NHFLA-MW5OB-SEP2020	3	/	10	0.5	-	0.5	3.10	5.42	CA	N	BSC
	98-82-8	Isopropylbenzene	0.58	0.58	µg/L	NHFLA-MW5OB-SEP2020	1	/	10	0.5	-	0.5	0.58	155	NC	N	BSC
	ARC-mpXyl	m,p-Xylene [4]	0.73	7.5	µg/L	NHFLA-MW5OB-SEP2020	3	/	10	1	-	1	7.50	55.5	NC	N	BSC
	108-87-2	Methylcyclohexane	0.71	18	µg/L	NHFLA-MW5OB-SEP2020	6	/	10	0.5	-	0.5	18.00	143	NC	N	BSC
	75-09-2	Methylene chloride	1.9	1.9	µg/L	NHFLA-MW15-SEP2020	1	/	10	2.5	-	2.5	1.90	634	NC	N	BSC
	95-47-6	o-Xylene	0.74	5.1	µg/L	NHFLA-MW5OB-SEP2020	3	/	10	0.5	-	0.5	5.10	77.5	NC	N	BSC
	108-88-3	Toluene	3.8	12	µg/L	NHFLA-MW5OB-SEP2020	2	/	10	0.5	-	0.5	12.00	2,850	NC	N	BSC
Semi-Volatile Organic Compounds																	
Nearby Residence	91-57-6	2-Methylnaphthalene	0.11	0.32	µg/L	NHFLA-MW5OB-SEP2020	3	/	10	0.093	-	0.0975	0.320	8.1	CA	N	BSC

Notes:

(1) Maximum concentration.

(2) The screening toxicity value is the United States Environmental Protection Agency (EPA) Vapor Intrusion Screening Level (VISL) for Residential exposure scenario. VISLs are based on either a target cancer risk of 1×10^{-6} or a noncancer hazard quotient (HQ) of 0.1 to account for cumulative risk from exposure to multiple constituents.

(3) Codes used for the "Rationale for Selection or Deletion":
ASC - Above Screening Criterion
BSC - Below Screening Criterion

(4) Screening level is for m-xylenes.

CASRN = Chemical Abstracts Service Registry Number.

µg/L = microgram(s) per liter.

NA = not applicable.

RAGS Part D Table 3.1
Exposure Point Concentration Summary: Surface Soil (0-1 ft bgs)
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Exposure Medium	Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)		Maximum Concentration	Exposure Point Concentration			
								Value	Units	Statistic	Rationale
Surface Soil (0-1 ft bgs)	Former Launch Area	Benzo(a)anthracene	µg/kg	765	2,435	NP	8,500	2,435	µg/kg	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v5.1
		Benzo(a)pyrene	µg/kg	808	2,676	NP	9,600	2,676	µg/kg	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v5.1
		Benzo(b)fluoranthene	µg/kg	1,113	3,627	NP	13,000	3,627	µg/kg	95% Chebyshev (Mean, Sd) UCL	Potential UCL to use from ProUCL v5.1
		Dibenz(a,h)anthracene	µg/kg	131	395	NP	1,400	395	µg/kg	95% KM (Chebyshev) UCL	Potential UCL to use from ProUCL v5.1
		Indeno(1,2,3-cd)pyrene	µg/kg	565	1,674	NP	6,000	1,674	µg/kg	95% KM (Chebyshev) UCL	Potential UCL to use from ProUCL v5.1
		Chromium VI	mg/kg	0.81	0.58	NP	2.0	0.58	mg/kg	95% KM (t) UCL	Potential UCL to use from ProUCL v5.1
		Manganese	mg/kg	719	897	G	1,729	897	mg/kg	95% Adjusted Gamma UCL	Potential UCL to use from ProUCL v5.1

Notes:
[1] The arithmetic mean of detected concentrations only is presented.
[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* the 95% UCL concentration) was calculated using ProUCL version 5.1.

ft bgs = feet below ground surface.
mg/kg = milligram(s) per kilogram.

Data Distribution Codes:
G = Gamma
LN = Lognormal
N = Normal
NP = Nonparametric

RAGS Part D Table 3.2
Exposure Point Concentration Summary: Surface and Subsurface Soil (0-10 ft bgs)
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Exposure Medium	Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration [2] (Distribution)		Maximum Concentration	Exposure Point Concentration			
								Value	Units	Statistic	Rationale
Surface and Subsurface Soil (0-10 ft bgs)	Former Launch Area	Benzo(a)anthracene	µg/kg	503	1,077	NP	8,500	1,077	µg/kg	95% Gamma Adjusted KM-UCL	Potential UCL to use from ProUCL v5.1
		Benzo(a)pyrene	µg/kg	492	1,198	NP	9,600	1,198	µg/kg	95% Gamma Adjusted KM-UCL	Potential UCL to use from ProUCL v5.1
		Benzo(b)fluoranthene	µg/kg	669	1,613	NP	13,000	1,613	µg/kg	95% Gamma Adjusted KM-UCL	Potential UCL to use from ProUCL v5.1
		Dibenz(a,h)anthracene	µg/kg	96	125	NP	1,400	125	µg/kg	KM H-UCL	Potential UCL to use from ProUCL v5.1
		Indeno(1,2,3-cd)pyrene	µg/kg	367	878	NP	6,000	878	µg/kg	95% KM (Chebyshev) UCL	Potential UCL to use from ProUCL v5.1
		Chromium VI	mg/kg	0.59	0.46	NP	2.0	0.46	µg/kg	95% KM Adjusted Gamma UCL	Potential UCL to use from ProUCL v5.1
		Manganese	mg/kg	551	665	G	1,729	665	µg/kg	95% Adjusted Gamma UCL	Potential UCL to use from ProUCL v5.1

Notes:
[1] The arithmetic mean of detected concentrations only is presented.
[2] The 95% Upper Confidence Level (UCL) on the arithmetic average concentration (*i.e.,* the 95% UCL concentration) was calculated using ProUCL version 5.0.

ft bgs = feet below ground surface.
mg/kg = milligram(s) per kilogram.

Data Distribution Codes:
G = Gamma
LN = Lognormal
N = Normal
NP = Nonparametric

RAGS Part D Table 3.3
Exposure Point Concentration Summary: Groundwater - Tapwater Scenario
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Exposure Medium	Exposure Point	Hide for Vlookup	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration (Distribution)	Maximum Concentration	Exposure Point Concentration			
								Value	Units	Statistic	Rationale
Overburden and Bedrock Groundwater	Former Launch Area	591-78-6	2-Hexanone	µg/L	4.0	N/A	4.0	4.0	µg/L	Maximum detected concentration	USEPA guidance for groundwater exposure point concentrations
		71-43-2	Benzene	µg/L	31	N/A	210	210	µg/L	Maximum detected concentration	USEPA guidance for groundwater exposure point concentrations
		67-66-3	Chloroform	µg/L	2.2	N/A	2.2	2.2	µg/L	Maximum detected concentration	USEPA guidance for groundwater exposure point concentrations
		100-41-4	Ethylbenzene	µg/L	2.3	N/A	11	11	µg/L	Maximum detected concentration	USEPA guidance for groundwater exposure point concentrations
		95-47-6	o-Xylene	µg/L	7.7	N/A	50	50	µg/L	Maximum detected concentration	USEPA guidance for groundwater exposure point concentrations
		79-01-6	Trichloroethene (TCE)	µg/L	0.39	N/A	0.41	0.41	µg/L	Maximum detected concentration	USEPA guidance for groundwater exposure point concentrations
		91-57-6	2-Methylnaphthalene	µg/L	1.3	N/A	14	14	µg/L	Maximum detected concentration	USEPA guidance for groundwater exposure point concentrations
		56-55-3	Benzo(a)anthracene	µg/L	0.094	N/A	0.15	0.15	µg/L	Maximum detected concentration	USEPA guidance for groundwater exposure point concentrations
		50-32-8	Benzo(a)pyrene	µg/L	0.078	N/A	0.082	0.082	µg/L	Maximum detected concentration	USEPA guidance for groundwater exposure point concentrations
		117-81-7	Bis(2-ethylhexyl)phthalate	µg/L	8.9	N/A	28	28	µg/L	Maximum detected concentration	USEPA guidance for groundwater exposure point concentrations
		91-20-3	Naphthalene	µg/L	1.6	N/A	4.3	4.3	µg/L	Maximum detected concentration	USEPA guidance for groundwater exposure point concentrations
		7429-90-5	Aluminum	µg/L	741	N/A	6,260	6,260	µg/L	Maximum detected concentration	USEPA guidance for groundwater exposure point concentrations
		7440-36-0	Antimony	µg/L	1.1	N/A	9.0	9.0	µg/L	Maximum detected concentration	USEPA guidance for groundwater exposure point concentrations
		7440-39-3	Barium	µg/L	232	N/A	1,280	1,280	µg/L	Maximum detected concentration	USEPA guidance for groundwater exposure point concentrations
		7440-02-0	Nickel	µg/L	8.5	N/A	58	58	µg/L	Maximum detected concentration	USEPA guidance for groundwater exposure point concentrations
		7440-28-0	Thallium	µg/L	0.32	N/A	1.4	1.4	µg/L	Maximum detected concentration	USEPA guidance for groundwater exposure point concentrations
		7440-62-2	Vanadium	µg/L	3.2	N/A	24	24	µg/L	Maximum detected concentration	USEPA guidance for groundwater exposure point concentrations
		18540-29-9	Chromium, Hexavalent	µg/L	1.9	N/A	3.3	3.3	µg/L	Maximum detected concentration	USEPA guidance for groundwater exposure point concentrations

Notes
[1] The arithmetic mean of detected concentrations only is presented.

µg/L = microgram(s) per liter.
N/A = not applicable.

Data Distribution Codes:
G = Gamma
LN = Lognormal
N = Normal
NP = Nonparametric

RAGS Part D Table 3.4
Exposure Point Concentration Summary: Overburden Groundwater - Construction / Utility Worker Scenario
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Exposure Medium	Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean [1]	95% UCL Concentration (Distribution)	Maximum Concentration	Exposure Point Concentration			
							Value	Units	Statistic	Rationale
Overburden Groundwater	Former Launch Area	Benzene	µg/L	2.7	N/A	5.1	5.1	µg/L	Maximum detected concentration	USEPA guidance for groundwater exposure point concentrations
		Ethylbenzene	µg/L	1.5	N/A	3.1	3.1	µg/L	Maximum detected concentration	USEPA guidance for groundwater exposure point concentrations
		Trichloroethene (TCE)	µg/L	0.39	N/A	0.41	0.41	µg/L	Maximum detected concentration	USEPA guidance for groundwater exposure point concentrations
		Benzo(a)anthracene	µg/L	0.044	N/A	0.044	0.044	µg/L	Maximum detected concentration	USEPA guidance for groundwater exposure point concentrations
		Bis(2-ethylhexyl)phthalate	µg/L	28	N/A	28	28	µg/L	Maximum detected concentration	USEPA guidance for groundwater exposure point concentrations
		Naphthalene	µg/L	0.33	N/A	0.33	0.33	µg/L	Maximum detected concentration	USEPA guidance for groundwater exposure point concentrations
		Aluminum	µg/L	551	N/A	3,640	3,640	µg/L	Maximum detected concentration	USEPA guidance for groundwater exposure point concentrations
		Barium	µg/L	187	N/A	1,280	1,280	µg/L	Maximum detected concentration	USEPA guidance for groundwater exposure point concentrations
		Nickel	µg/L	8.0	N/A	58	58	µg/L	Maximum detected concentration	USEPA guidance for groundwater exposure point concentrations
		Thallium	µg/L	0.27	N/A	1.3	1.3	µg/L	Maximum detected concentration	USEPA guidance for groundwater exposure point concentrations
		Chromium, Hexavalent	µg/L	2.3	N/A	3.3	3.3	µg/L	Maximum detected concentration	USEPA guidance for groundwater exposure point concentrations

Notes
[1] The arithmetic mean of detected concentrations only is presented.

µg/L = microgram(s) per liter.
N/A = not applicable.

Data Distribution Codes:
G = Gamma
LN = Lognormal
N = Normal
NP = Nonparametric

Worksheet 4-1
Calculation of Site-Specific Particulate Emission Factor for Soil Invasive Activities
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Model Equation [1]

$$PEF_{sc} = Q/C_{sr} \; x \; \frac{1}{F_D} x \left[\frac{T \; x \; A_R}{556 \; x \; \left(\frac{W}{3}\right)^{0.4} \; x \; \frac{(365 \; d/yr - p)}{365 \; d/yr} \; x \; \sum VKT} \right]$$

where:

$$Q/C_{sr} = A \; x \; exp \left[\frac{(lnA_s - B)^2}{C} \right]$$

Parameters	Symbol	Units	Value	Notes
Subchronic Particulate Emission Factor for unpaved road traffic	PEF_{sc}	m^3/kg	3.86E+07	calc
Inverse of the ratio of the geometric mean air concentration to the emission flux	Q/C_{sr}	g/m^2-s per kg/m^3	16.44	calc
Duration of exposure	T	seconds	3.2E+07	[2]
Constant A	A	unitless	12.9351	[3]
Constant B	B	unitless	5.7383	[3]
Constant C	C	unitless	71.7711	[3]
Areal extent of site surface soil contamination	A_s	acres	5	[4]
Dispersion correction factor	F_D	unitless	0.186	[5]
Surface area of road segment in impacted area	A_R	m^2	857.93	calc
Length of road segment	L_R	m	140.74	[6]
Width of road segment	W_R	m	6.096	[7]
Mean vehicle weight	W	tons	16.5	[8]
Number of days with at least 0.01 inches of precipitation	p	days/year	150	[9]
Sum of fleet vehicle kilometers traveled during the exposure duration	ΣVKT	km	95.62	[10]

Notes:

g/m^2-s per kg/m^3 = grams per square meter-second per kilogram per cubic meter.

km = kilometers.

m = meters.

m^2 = square meters.

m^3/kg = cubic meters per kilogram.

[1] Subchronic particulate emission factor (PEF_{sc}) equation is Equation E-18 from USEPA 2002.

[2] The duration of construction is assumed to be 1 year.

[3] Default values from Equation E-19 from USEPA 2002.

[4] The areal extent of contamination was set equal to the area (19,807 m^2) of the Former Launch Area.

[5] Dispersion correction factor equation is Equation E-16 from USEPA 2002.

[6] The length of road segment was set equal to the square root of the area (19,807 m^2) of the Former Launch Area.

[7] Default value (20 feet) in Equation E-18 from USEPA 2002.

[8] Assumes a Class 8 truck with a gross vehicle weight rating of more than 33,000 pounds (e.g., tractor trailer).

[9] Value used for Buffalo, New York, shown in Exhibit E-4 in USEPA 2002.

[10] The sum of kilometers traveled was estimated assuming five vehicles traveling a road equivalent to the estimated lengths and widths of the road at the Site twice per day for 65 days per year (5 × 0.1471 km/day × 2 times/day × 65 days).

References:

USEPA. 2002. Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites. OSWER 9355.4-24. December.

Worksheet 4-2
Calculation of Chemical- and Receptor-Specific Volatilization Factors for Soil
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Model Equations [1]

Construction / Utility Worker

$$VF_{sc} = \frac{Q/C_{sa} \times \frac{1}{F_D} \times (3.14 \times D_A \times T)^{1/2} \times 10^{-4} (m^2/cm^2)}{2 \times \rho_b \times D_A}$$

where:

$$D_A = \frac{\left[\left(\theta_a^{10/3} D^{air} H + \theta_w^{10/3} D^{wat}\right) / \theta_T^2\right]}{\rho_b K_d + \theta_w + \theta_a H}$$

$$Q/C_{sa} = A\ x\ exp\left[\frac{(lnA_c - B)^2}{C}\right]$$

Indoor Commercial/Industrial Worker or Outdoor Maintenance Worker

$$VF = \frac{Q/C_{vol} \times (3.14 \times D_A \times T)^{1/2} \times 10^4 (m^2/cm^2)}{2 \times \rho_b \times D_A}$$

where:

$$D_A = \frac{\left[\left(\theta_a^{10/3} D^{air} H + \theta_w^{10/3} D^{wat}\right) / \theta_T^2\right]}{\rho_b K_d + \theta_w + \theta_a H}$$

$$Q/C_{vol} = A\ x\ exp\left[\frac{(lnA_{site} - B)^2}{C}\right]$$

Parameter Code	Parameter Definition	Value	Units	Rationale/Reference
Receptor-Specific Parameters				
Construction / Utility Worker				
T	Total time over which construction occurs	3.2E+07	s	Exposure duration in seconds [2]
Q/C_{sa}	Inverse of the ratio of the 1-h geometric mean air concentration to the volatilization flux at the center of a square site	9.44	g/m^2-s per kg/m^3	Based on Equation E-15 in USEPA (2002)
A	Constant A	2.4538	unitless	USEPA (2002) [3]
B	Constant B	17.566	unitless	USEPA (2002) [3]
C	Constant C	189.0426	unitless	USEPA (2002) [3]
A_c	Areal extent of site soil contamination	5	acres	[4]
F_D	Dispersion correction factor	0.186	unitless	USEPA (2002) [5]
Indoor Commercial / Industrial Worker or Outdoor Maintenance Worker				
T	Exposure interval	7.9E+08	s	Exposure duration in seconds [2]
Q/C_{vol}	Inverse of the ratio of the 1-h geometric mean air concentration to the volatilization flux at the center of a square site	58.22	g/m^2-s per kg/m^3	Calculated
A	Constant A	12.8612	unitless	USEPA (2002) [6]
B	Constant B	20.5164	unitless	USEPA (2002) [6]
C	Constant C	237.2798	unitless	USEPA (2002) [6]
A_c	Areal extent of site surface soil contamination	5	acres	[4]
Environmental Parameters				
ρ_b	Dry soil bulk density	1.49	g/cm^3	USEPA (2017) [7]
θ_T	Total Porosity	0.44	cm^3/cm^3	USEPA (2017) [7]
θ_w	Water-filled soil porosity	0.18	cm^3/cm^3	USEPA (2017) [7]
θ_a	Air-filled soil porosity	0.26	cm^3/cm^3	Calculated (θ_T - θ_w)
f_{oc}	Fraction organic carbon	0.006	g/g	USEPA (1996; 2002) [7]

Worksheet 4-2
Calculation of Chemical- and Receptor-Specific Volatilization Factors for Soil
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

	Chemical-Specific Parameters [8]						Receptor-Specific Volatilization Factors	
	Soil-Organic Carbon Partition Coefficient K_{OC} (cm^3/g)	Soil-Water Partition Coefficient [9] K_d (cm^3/g)	Henry's Law Constant H (unitless)	Diffusivity in Air D^{air} (cm^2/s)	Diffusivity in Water D^{wat} (cm^2/s)	Apparent Diffusivity D_A (cm^2/s)	Construction / Utility Worker VFsc (m^3/kg)	Indoor Commercial / Industrial Worker or Outdoor Maintenance Worker VFs (m^3/kg)
Polycyclic Aromatic Hydrocarbons								
Benzo(a)anthracene	1.8E+05	1.1E+03	4.9E-04	2.6E-02	6.7E-06	5.4E-10	7.3E+05	4.2E+06

Abbreviations:

cm^2/s = square centimeters per second.

cm^3/cm^3 = cubic centimeters per cubic centimeter.

cm^3/g = cubic centimeter per gram.

g/cm^3 = grams per cubic centimeter.

g/g = grams per gram

g/m^2-s per kg/m^3 = grams per square meter-second per kilogram per cubic meter.

m^3/kg = cubic meter per kilogram.

Notes:
Volatilization factors are calculated only for volatile constituents of potential concern (COPCs) in soil.
[1] Volatilization model equations were obtained from USEPA (2002).
VF_{sc} - Equation 5-14 VF - Equation 4-8
Q/C_{sa} - Equation 5-15 Q/C_{vol} - Equation D-3
[2] The receptor-specific exposure duration is presented in RAGS Part D Tables 4.2 and 4.3.
[3] Default values presented in Equation 5-15 in USEPA 2002.
[4] The areal extent of contamination was set equal to the area (19,807 m^2) of the Former Launch Area.
[5] Calculated using Equation E-16 in USEPA 2002.
[6] Default values for Cleveland, Ohio from Exhibit D-3 in USEPA 2002.
[7] Default soil parameters were obtained from USEPA (2017) or USEPA (1996) and USEPA (2002).
[8] Chemical-specific parameter values obtained from USEPA Regional Screening Levels tables (May 2021).
[9] For organics, soil-water partitioning coefficient is calculated as $K_d = K_{oc} \times f_{oc}$.

References:
USEPA. 1996. Soil Screening Guidance: User's Guide. OSWER Publication 9355.4-23. July.
USEPA. 2002. Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites. OSWER 9355.4-24. December.
USEPA. 2017. Documentation for EPA's Implementation of the Johnson and Ettinger Model to Evaluate Site Specific Vapor Intrusion into Buildings, Version 6.0. September.
USEPA. 2021. Regional Screening Levels: Chemical Specific Parameters. Available at https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables. Last updated May 2021.

Worksheet 4-3
Values Used for Dermal Absorbed Dose (DA_{event}) Calculations
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

For inorganics

Chemical of Potential Concern	CAS RN	t* (hrs)	FA (unitless)	Kp (cm/hr)	CF (L/cm^3)	tau-event (hr/event)
Aluminum	7429-90-5	0.36	1	1.00E-03	0.001	1.49E-01
Antimony	7440-36-0	1.21	1	1.00E-03	0.001	5.05E-01
Arsenic	7440-38-2	0.66	1	1.00E-03	0.001	2.76E-01
Barium	7440-39-3	1.48	1	1.00E-03	0.001	6.18E-01
Cobalt	7440-48-4	0.54	1	4.00E-04	0.001	2.25E-01
Iron	7439-89-6	0.52	1	1.00E-03	0.001	2.16E-01
Manganese	7439-96-5	0.51	1	1.00E-03	0.001	2.14E-01
Nickel	7440-02-0	0.54	1	2.00E-04	0.001	2.24E-01
Thallium	7440-28-0	3.52	1	1.00E-03	0.001	1.47E+00
Vanadium	7440-62-2	0.49	1	1.00E-03	0.001	2.03E-01
Chromium, Hexavalent (M)	18540-29-9	0.49	1	2.00E-03	0.001	2.06E-01

Scenario:	Resident Child	Resident Adult	Commercial Worker	Construction Worker
t-event (hrs)	0.54	0.71	0.033	2
DA Factor:	(L/cm^2-event)	(L/cm^2-event)	(L/cm^2-event)	(L/cm^2-event)
	5.40E-07	7.10E-07	3.33E-08	2.00E-06
	5.40E-07	7.10E-07	3.33E-08	2.00E-06
	5.40E-07	7.10E-07	3.33E-08	2.00E-06
	5.40E-07	7.10E-07	3.33E-08	2.00E-06
	2.16E-07	2.84E-07	1.33E-08	8.00E-07
	5.40E-07	7.10E-07	3.33E-08	2.00E-06
	5.40E-07	7.10E-07	3.33E-08	2.00E-06
	1.08E-07	1.42E-07	6.67E-09	4.00E-07
	5.40E-07	7.10E-07	3.33E-08	2.00E-06
	5.40E-07	7.10E-07	3.33E-08	2.00E-06
	1.08E-06	1.34E-06	6.67E-08	4.00E-06

For organics, if t-event < t*

Chemical of Potential Concern	CAS RN	t* (hrs)	FA (unitless)	Kp (cm/hr)	CF (L/cm^3)	tau-event (hr/event)
2-Hexanone	591-78-6	0.92	1	3.55E-03	0.001	3.83E-01
Benzene	71-43-2	0.69	1	1.49E-02	0.001	2.88E-01
Chloroform	67-66-3	1.18	1	6.83E-03	0.001	4.90E-01
Ethylbenzene	100-41-4	0.99	1	4.93E-02	0.001	4.13E-01
o-Xylene	95-47-6	0.99	1	4.71E-02	0.001	4.13E-01
Trichloroethene (M)	79-01-6	1.37	1	1.16E-02	0.001	5.72E-01
2-Methylnaphthalene	91-57-6	1.58	1	9.17E-02	0.001	6.58E-01
Benzo(a)anthracene (M)	56-55-3	8.48	1	5.52E-01	0.001	2.00E+00
Benzo(a)pyrene (M)	50-32-8	11.82	1	7.13E-01	0.001	2.72E+00
Bis(2-ethylhexyl)phthalate	117-81-7	72.88	1	1.13E+00	0.001	1.62E+01
Naphthalene	91-20-3	1.32	1	4.66E-02	0.001	5.49E-01

Scenario:	Resident Child	Resident Adult	Commercial Worker	Construction Worker
t-event (hrs)	0.54	0.71	0.033	2
DA Factor:	(L/cm^2-event)	(L/cm^2-event)	(L/cm^2-event)	(L/cm^2-event)
	4.46E-06	5.11E-06	1.11E-06	--
	1.62E-05	--	4.03E-06	--
	9.71E-06	1.11E-05	2.41E-06	--
	6.44E-05	7.38E-05	1.60E-05	--
	6.15E-05	7.05E-05	1.53E-05	--
	1.78E-05	1.99E-05	4.43E-06	--
	1.51E-04	1.73E-04	3.75E-05	--
	1.58E-03	1.77E-03	3.94E-04	3.05E-03
	2.39E-03	2.66E-03	5.94E-04	4.60E-03
	9.23E-03	1.06E-02	2.29E-03	1.78E-02
	7.01E-05	8.04E-05	1.74E-05	--

Worksheet 4-3
Values Used for Dermal Absorbed Dose (DA_{event}) Calculations
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

For organics, if t-event > t*

Chemical of Potential Concern	CAS RN	t* (hrs)	FA (unitless)	Kp (cm/hr)	CF (L/cm^3)	B (unitless)	tau-event (hr/event)
2-Hexanone	591-78-6	0.92	1	3.55E-03	0.001	1.37E-02	3.83E-01
Benzene	71-43-2	0.69	1	1.49E-02	0.001	5.07E-02	2.88E-01
Chloroform	67-66-3	1.18	1	6.83E-03	0.001	2.87E-02	4.90E-01
Ethylbenzene	100-41-4	0.99	1	4.93E-02	0.001	1.95E-01	4.13E-01
o-Xylene	95-47-6	0.99	1	4.71E-02	0.001	1.87E-01	4.13E-01
Trichloroethene	79-01-6	1.37	1	1.16E-02	0.001	5.11E-02	5.72E-01
2-Methylnaphthalene	91-57-6	1.58	1	9.17E-02	0.001	4.21E-01	6.58E-01
Benzo(a)anthracene	56-55-3	8.48	1	5.52E-01	0.001	3.21E+00	2.00E+00
Benzo(a)pyrene	50-32-8	11.82	1	7.13E-01	0.001	4.36E+00	2.72E+00
Bis(2-ethylhexyl)phthalate	117-81-7	72.88	1	1.13E+00	0.001	8.59E+00	1.62E+01
Naphthalene	91-20-3	1.32	1	4.66E-02	0.001	2.03E-01	5.49E-01

Scenario:	Resident Child	Resident Adult	Commercial Worker	Construction Worker
t-event (hrs)	0.54	0.71	0.033	2
DA Factor:	(L/cm^2-event)	(L/cm^2-event)	(L/cm^2-event)	(L/cm^2-event)
	--	--	--	9.76E-06
	--	1.91E-05	--	3.74E-05
	--	--	--	2.02E-05
	--	--	--	1.31E-04
	--	--	--	1.25E-04
	--	--	--	3.60E-05
	--	--	--	2.96E-04
	--	--	--	--
	--	--	--	--
	--	--	--	--
	--	--	--	1.39E-04

Note:
1. DA Factors shown here are multiplied by the EPC (mg/L) to arrive at DA event (mg/cm^2-event).
2. For mutagens (M), the event duration values presented for resident adults are based on mutagenic, age-adjusted exposure time (0.6708 hours per event).

Per USEPA 2004, DA Factor (L/cm^2-event) is calculated as follows:

For inorganic constituents, DA Factor (L/cm^2-event) = Kp × t-event × CF

For organic constituents, if t-event < t*, then: DA Factor (L/cm^2-event) = 2FA × Kp × CF × SQRT[(6 × τ-event × t-event)/π]

For organic constituents, if t-event > t*, then: DA Factor (L/cm^2-event) = FA × Kp × CF × [(t-event/(1 + B)) + 2 × τ-event × ((1 + (3 × B) + (3 × B × B))/(1 + B)^2)]

Worksheet 4-4
Derivation of Groundwater Volatilization Factor for a Construction/Utility Worker Exposure to Groundwater in a Trench
Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Volatile Constituents	Constituent-Specific Physical Parameters [a]					Enthalpy of Vaporization at Water Temp. [b] (ΔH_v) (cal/mol)	Henry's Law Constant at Water Temp. [b] (H) (atm-m³/mol)	Henry's Law Constant at Water Temp. [b] (Ho) (unitless)	Gas-Phase Mass Transfer Coefficient (K_{iG}) (cm/sec)	Liquid-Phase Mass Transfer Coefficient (K_{iL}) (cm/sec)	Overall Mass Transfer Coefficient (K_i) (cm/sec)	Volatilization Factor [c] Exposed Water in a Trench ($VF\text{-}gw_{trench}$) (L/m³)
	Molecular Weight (MW) (g/mol)	Henry's Law Constant at Ref. Temp. (H) (atm-m³/mol)	Enthalpy of Vaporization at Boiling Point (ΔH_v) (cal/mol)	Normal Boiling Point (Tb) (°K)	Critical Temperature (Tc) (°K)							
Volatile Organic Compounds												
Benzene	7.8E+01	5.6E-03	7.3E+03	3.5E+02	5.6E+02	8.0E+03	3.8E-03	1.6E-01	5.0E-01	1.2E-03	1.2E-03	1.2E+01
Ethylbenzene	1.1E+02	7.9E-03	8.5E+03	4.1E+02	6.2E+02	1.0E+04	4.9E-03	2.1E-01	4.5E-01	1.1E-03	1.1E-03	1.0E+01
Trichloroethene	1.3E+02	9.9E-03	7.5E+03	3.6E+02	5.7E+02	8.3E+03	6.7E-03	2.8E-01	4.2E-01	9.6E-04	9.5E-04	9.4E+00
Benzo(a)anthracene	2.3E+02	1.2E-05	1.6E+04	7.1E+02	9.8E+02	2.4E+04	4.0E-06	1.7E-04	3.5E-01	7.3E-04	5.4E-05	5.3E-01
Semi-Volatile Organic Compounds												
Naphthalene	1.3E+02	4.4E-04	1.0E+04	4.9E+02	7.5E+02	1.3E+04	2.4E-04	1.0E-02	4.2E-01	9.7E-04	7.9E-04	7.8E+00

Mass Transfer Coefficient Parameters

Default input parameters, as presented in the table beneath, were used.

Parameter	Unit	Value	
MWH_20	g/mol	18.02	Molecular weight of water.
MWO_2	g/mol	32.00	Molecular weight of oxygen.
kL,O_2	cm/sec	0.002	Liquid-phase mass transfer coefficient of oxygen at 25°C.
kG,H_2O	cm/sec	0.833	Gas-phase mass transfer coefficient of water vapor at 25°C.
R	atm-m³/mol-K	0.000082	Ideal gas constant.
Tgw	°C	17.0	Temperature of groundwater (site-specific value).
T	°K	290.15	Average system absolute temperature.

Trench Model Input Parameters:

Default input parameters, as presented in the table beneath, were used.

Parameter	Unit	Value	
A	m^2	2.23	Area of trench (length × width). Assumed to be 3 feet wide and 8 feet long (VDEQ 2018 default).
F	unitless	1	Fraction of trench floor through which contaminant can enter (VDEQ 2018 default).
V	m^3	4.08	Volume of trench (area × depth) (VDEQ 2018 default).
ACH	h^{-1}	2	Air changes per hour (VDEQ 2018 default).
D_{Trench}	m	1.8288	Depth of trench which is equal to the depth of groundwater (6 feet).

Abbreviations:

atm-m³/mol	Atmosphere per meter cubed per mole.	g/mol	Gram per mole.	m	meter.
°C	Degrees Celsius.	h^{-1}	Inverse hour.	m^2	Square meter.
cal/mol	Calories per mol.	°K	Degrees Kelvin.	m^3	Cubic meter.
cm/sec	Centimeter per second.	L/m^3	Liter per cubic meter.		

Notes:

[a] Constituent-specific parameters were obtained from the Chemical Specific Parameters Table from the Regional Screening Level Table (USEPA 2020a).
[b] Enthalpy of vaporization and Henry's Law Constant were adjusted for soil temperature based on USEPA recommended methods (USEPA 2001c).
[c] Volatilization factors for water in a trench were calculated using Virginia Department of Environmental Quality trench model (VDEQ 2019).

RAGS Part D Table 4.1
Values Used for Daily Intake Calculations - Reasonable Maximum Exposure
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Scenario Timeframe: Current/Future
Medium: On-site Soil
Exposure Medium: Surface Soil (0-1 ft bgs)

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
Ingestion	Indoor Commercial / Industrial Worker	Adult	Former Launch Area	EPCs	Exposure point concentration, soil	Chemical-specific	mg/kg	See Table 3.1	Chronic Daily Intake (mg/kg-day) =
				IRS	Soil ingestion rate	50	mg/day	USEPA 2014	EPCs × IRS × RBA × EF × ED × CF × 1/BW × 1/AT
				RBA	Relative bioavailability	1	unitless	--	
				EF	Exposure frequency	250	days/year	USEPA 2014	
				ED	Exposure duration	25	years	USEPA 2014	
				CF	Conversion factor	1E-06	kg/mg	--	
				BW	Body weight	80	kg	USEPA 2014	
				ATc	Averaging time, cancer	25,550	days	USEPA 1989	
				ATn	Averaging time, non-cancer	9,125	days	USEPA 1989	
Inhalation	Indoor Commercial / Industrial Worker	Adult	Former Launch Area	EPCa	Exposure point concentration, air	Chemical-specific	mg/m^3	Calculated	Exposure Concentration (mg/m^3) =
				ET	Exposure time	8	hours/day	USEPA 2014	EPCa × ET × EF × ED × 1/AT
				EF	Exposure frequency	250	days/year	USEPA 2014	where:
				ED	Exposure duration	25	years	USEPA 2014	EPCa = EPCs × 1/PEF, for particulates
				PEF	Particulate emission factor due to wind under passive conditions	1.36E+09	m^3/kg	USEPA 2002	or
				VFs	Volatilization factor, soil	Chemical-specific	m^3/kg	USEPA 2002	EPCa = EPCs × 1/VFs, for volatile constituents
				ATc	Averaging time, cancer	613,200	hours	USEPA 2009	
				ATn	Averaging time, non-cancer	219,000	hours	USEPA 2009	

Notes:
ft bgs - feet below ground surface.
USEPA - United States Environmental Protection Agency.

References:
USEPA. 1989. Risk Assessment Guidance for Superfund (RAGS): Volume 1, Human Health Evaluation Manual, Part A. EPA/5401-89/002. Office of Emergency and Remedial Response, Washington, DC. December.
USEPA. 2002. Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites. OSWER 9355.4-24. Office of Solid Waste and Emergency Response, Washington, DC. December.
USEPA. 2009. Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual (Part F, Supplemental Guidance for Inhalation Risk Assessment). Final. EPA-540-R-070-002. Office of Superfund Remediation and Technology Innovation, Washington, DC. January.
USEPA. 2014. Human Health Evaluation Manual, Supplemental Guidance: Update of Standard Default Exposure Factors. OSWER Directive 9200.1-120. Office of Solid Waste and Emergency Response, Washington, DC. February.

RAGS Part D Table 4.2
Values Used for Daily Intake Calculations - Reasonable Maximum Exposure
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Scenario Timeframe: Current/Future
Medium: On-site Soil
Exposure Medium: Surface Soil (0-1 ft bgs)

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
Ingestion	Outdoor Maintenance Worker	Adult	Former Launch Area	EPCs	Exposure point concentration, soil	Chemical-specific	mg/kg	See Table 3.1	Chronic Daily Intake (mg/kg-day) =
				IRS	Soil ingestion rate	100	mg/day	USEPA 2014	EPCs × IRS × RBA × EF × ED × CF × 1/BW × 1/AT
				RBA	Relative bioavailability	1	unitless	--	
				EF	Exposure frequency	225	days/year	USEPA 2014	
				ED	Exposure duration	25	years	USEPA 2014	
				CF	Conversion factor	1E-06	kg/mg	--	
				BW	Body weight	80	kg	USEPA 2014	
				ATc	Averaging time, cancer	25,550	days	USEPA 1989	
				ATn	Averaging time, non-cancer	9,125	days	USEPA 1989	
Dermal	Outdoor Maintenance Worker	Adult	Former Launch Area	EPCs	Exposure point concentration, soil	Chemical-specific	mg/kg	See Table 3.1	Dermally Absorbed Dose (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA 2004	DA_{event} × EF × ED × EV × SA × 1/BW × 1/AT
				EF	Exposure frequency	225	days/year	USEPA 2014	where:
				ED	Exposure duration	25	years	USEPA 2014	Absorbed Dose per Event (DA_{event}) (mg/cm^2-event) =
				EV	Event frequency	1	events/day	Professional judgment	EPCs × CF × AF × ABS-d
				SA	Skin surface area available for contact	3,527	cm^2	USEPA 2014	
				BW	Body weight	80	kg	USEPA 2014	
				CF	Conversion factor	1E-06	kg/mg	--	
				AF	Soil-to-skin adherence factor	0.12	mg/cm^2-event	USEPA 2014	
				ABS-d	Dermal absorption fraction	Chemical-specific	unitless	USEPA 2004	
				ATc	Averaging time, cancer	25,550	days	USEPA 1989	
				ATn	Averaging time, non-cancer	9,125	days	USEPA 1989	
Inhalation	Outdoor Maintenance Worker	Adult	Former Launch Area	EPCa	Exposure point concentration, air	Chemical-specific	mg/m^3	Calculated	Exposure Concentration (mg/m^3) =
				ET	Exposure time	8	hours/day	USEPA 2014	EPCa × ET × EF × ED × 1/AT
				EF	Exposure frequency	225	days/year	USEPA 2014	where:
				ED	Exposure duration	25	years	USEPA 2014	EPCa = EPCs × 1/PEF, for particulates
				PEF	Particulate emission factor due to wind under passive conditions	1.36E+09	m^3/kg	USEPA 2002	or
				VFs	Volatilization factor, soil	Chemical-specific	m^3/kg	USEPA 2002	EPCa = EPCs × 1/VFs, for volatile constituents
				ATc	Averaging time, cancer	613,200	hours	USEPA 2009	
				ATn	Averaging time, non-cancer	219,000	hours	USEPA 2009	

Notes:
ft bgs - feet below ground surface.
USEPA - United States Environmental Protection Agency.

References:

USEPA. 1989. Risk Assessment Guidance for Superfund (RAGS): Volume 1, Human Health Evaluation Manual, Part A. EPA/5401-89/002. Office of Emergency and Remedial Response, Washington, DC. December.
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RAGS Part D Table 4.3
Values Used for Daily Intake Calculations - Reasonable Maximum Exposure
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Scenario Timeframe: Current/Future
Medium: On-site Soil
Exposure Medium: All Soil (0-10 ft bgs)

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
Ingestion	Construction / Utility Worker	Adult	Former Launch Area	EPCs	Exposure point concentration, soil	Chemical-specific	mg/kg	See Table 3.2	Chronic Daily Intake (mg/kg-day) =
				IRS	Soil ingestion rate	330	mg/day	USEPA 2014	EPCs × IRS × RBA × EF × ED × CF × 1/BW × 1/AT
				RBA	Relative bioavailability	1	unitless	--	
				EF	Exposure frequency	125	days/year	Professional judgment; Assumes 5 days per week for 25 weeks (approximately 6 months)	
				ED	Exposure duration	1	years	Professional judgment	
				CF	Conversion factor	1E-06	kg/mg	--	
				BW	Body weight	80	kg	USEPA 2014	
				ATc	Averaging time, cancer	25,550	days	USEPA 1989	
				ATn	Averaging time, non-cancer	365	days	USEPA 1989	
Dermal	Construction / Utility Worker	Adult	Former Launch Area	EPCs	Exposure point concentration, soil	Chemical-specific	mg/kg	See Table 3.2	Dermally Absorbed Dose (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA 2004	DA_{event} × EF × ED × EV × SA × 1/BW × 1/AT
				EF	Exposure frequency	125	days/year	Professional judgment; Assumes 5 days per week for 25 weeks (approximately 6 months)	where:
				ED	Exposure duration	1	years	Professional judgment	Absorbed Dose per Event (DA_{event}) (mg/cm^2-event) =
				EV	Event frequency	1	events/day	Professional judgment	EPCs × CF × AF × ABS-d
				SA	Skin surface area available for contact	3,527	cm^2	USEPA 2014	
				BW	Body weight	80	kg	USEPA 2014	
				CF	Conversion factor	1E-06	kg/mg	--	
				AF	Soil-to-skin adherence factor	0.3	mg/cm^2-event	USEPA 2002	
				ABS-d	Dermal absorption fraction	Chemical-specific	unitless	USEPA 2004	
				ATc	Averaging time, cancer	25,550	days	USEPA 1989	
				ATn	Averaging time, non-cancer	365	days	USEPA 1989	
Inhalation	Construction / Utility Worker	Adult	Former Launch Area	EPCa	Exposure point concentration, air	Chemical-specific	mg/m^3	Calculated	Exposure Concentration (mg/m^3) =
				ET	Exposure time	8	hours/day	USEPA 2014	EPCa × ET × EF × ED × 1/AT
				EF	Exposure frequency	125	days/year	Professional judgment; Assumes 5 days per week for 25 weeks (approximately 6 months)	where:
				ED	Exposure duration	1	years	Professional judgment	EPCa = EPCs × 1/PEF, for particulates
				PEF	Particulate emission factor for a construction scenario	3.86E+07	m^3/kg	USEPA 2002	or
				VFs	Volatilization factor, soil	Chemical-specific	m^3/kg	USEPA 2002	EPCa = EPCs × 1/VFs, for volatile constituents
				ATc	Averaging time, cancer	613,200	hours	USEPA 2009	
				ATn	Averaging time, non-cancer	8,760	hours	USEPA 2009	

Notes:
USEPA - United States Environmental Protection Agency.

References:

USEPA. 1989. Risk Assessment Guidance for Superfund (RAGS): Volume 1, Human Health Evaluation Manual, Part A. EPA/5401-89/002. Office of Emergency and Remedial Response, Washington, DC. December.
USEPA. 2002. Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites. OSWER 9355.4-24. Office of Solid Waste and Emergency Response, Washington, DC. December.
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RAGS Part D Table 4.4
Values Used for Daily Intake Calculations - Reasonable Maximum Exposure
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

ARCADIS

Scenario Timeframe: Current/Future
Medium: On-site Shallow Groundwater
Exposure Media: Groundwater and Trench Air

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
Ingestion	Construction / Utility Worker	Adult	Utility Trench	EPCgw	Exposure point concentration, groundwater	Chemical-specific	mg/L	See Table 3.4	Chronic Daily Intake (CDI) (mg/kg-day)=
				IRW	Ingestion rate	0.02	liters/day	VDEQ 2019	EPCgw × IRW × EF × ED × 1/BW × 1/AT
				EF	Exposure frequency	125	days/year	Professional judgment; Assumes 5 days per week for 25 weeks (approximately 6 months)	
				ED	Exposure duration	1	years	Professional judgment	
				BW	Body weight	80	kg	USEPA 2014	
				ATc	Averaging time, cancer	25,550	days	USEPA 1989	
				ATn	Averaging time, non-cancer	365	days	USEPA 1989	
Dermal	Construction / Utility Worker	Adult	Utility Trench	EPCgw	Exposure point concentration, groundwater	Chemical-specific	mg/L	See Table 3.4	Dermally Absorbed Dose (DAD) (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA 2004	DA_{event} × EV × ED × EF × SA × 1/BW × 1/AT
				EV	Event frequency	1	events/day	Professional judgment	
				ED	Exposure duration	1	years	Professional judgment	Where for inorganic chemicals:
				EF	Exposure frequency	125	days/year	Professional judgment; Assumes 5 days per week for 25 weeks (approximately 6 months)	Absorbed Dose per Event (DA_{event}) (mg/cm^2-event) = DA_{event} = Kp × EPCgw × t-event × CF
				SA	Skin surface area available for contact	3,527	cm^2	USEPA 2014	And where for organic chemicals:
				Kp	Permeability coefficient	Chemical-specific	cm/hour	USEPA 2021	
				t-event	Event duration	2	hours/event	USEPA 2014	If t-event < t*, then: DA_{event} = 2FA × Kp × EPCgw × CF × SQRT{(6 × tau-event × t-event)/pi}
				CF	Volumetric conversion factor for water	0.001	L/cm^3	--	
				t*	Time to reach steady-state = 2.4×tau-event	Chemical-specific	hours	USEPA 2021	If t-event > t*, then: DA_{event} = FA × Kp × EPCgw × CF × {(t-event/(1 + B)) + 2 × tau-event × ((1 + (3 × B) + (3 × B^2))/(1 + B)^2)}
				FA	Fraction absorbed	Chemical-specific	unitless	USEPA 2004	
				tau-event	Lag time per event	Chemical-specific	hours/event	USEPA 2021	
				B	Ratio of permeability coefficient of a chemical through the stratum corneum relative to its permeability coefficient across the viable epidermis	Chemical-specific	unitless	USEPA 2021	
				BW	Body weight	80	kg	USEPA 2014	
				ATc	Averaging time, cancer	25,550	days	USEPA 1989	
				ATn	Averaging time, non-cancer	365	days	USEPA 1989	
Inhalation	Construction / Utility Worker	Adult	Trench Air	EPCa	Exposure point concentration, air	Chemical-specific	mg/m^3	Calculated	Exposure Concentration (mg/m^3) =
				ET	Exposure time	8	hours/day	USEPA 2014	EPCa × ET × EF × ED × 1/AT
				EF	Exposure frequency	125	days/year	Professional judgment; Assumes 5 days per week for 25 weeks (approximately 6 months)	
				ED	Exposure duration	1	years	Professional judgment	where, for volatile constituents:
				VF-trench	Volatilization factor for trench air	Chemical-specific	L/m^3	VDEQ 2019	EPCa = EPCgw × VF-trench
				ATc	Averaging time, cancer	613,200	hours	USEPA 2009	
				ATn	Averaging time, non-cancer	8,760	hours	USEPA 2009	

Notes:
USEPA - United States Environmental Protection Agency.
VDEQ - Virginia Department of Environmental Quality.

References:

USEPA. 1989. Risk Assessment Guidance for Superfund (RAGS): Volume 1, Human Health Evaluation Manual, Part A. EPA/5401-89/002. Office of Emergency and Remedial Response, Washington, DC. December.
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VDEQ. 2019. Voluntary Remediation Program Risk Assessment Guidance. Accessed online: https://www.deq.virginia.gov/Programs/LandProtectionRevitalization/RemediationProgram/VoluntaryRemediationProgram/VRP-RiskAssessmentGuidance/Guidance.aspx.

RAGS Part D Table 4.5
Values Used for Daily Intake Calculations - Reasonable Maximum Exposure
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Scenario Timeframe: Hypothetical Future
Medium: On-site Groundwater
Exposure Medium: Potable Water

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
Ingestion	Indoor Commercial / Industrial Worker	Adult	Workplace Tapwater	EPCgw	Exposure point concentration, groundwater	Chemical-specific	mg/L	See Table 3.3	Chronic Daily Intake (CDI) (mg/kg-day)=
				IRW	Ingestion rate	1.3	liters/day	Assumes half of the daily intake for an adult USEPA 2014; USEPA 1991	EPCgw × IRW × EF × ED × 1/BW × 1/AT
				EF	Exposure frequency	250	days/year	USEPA 2014	
				ED	Exposure duration	25	years	USEPA 2014	
				BW	Body weight	80	kg	USEPA 2014	
				ATc	Averaging time, cancer	25,550	days	USEPA 1989	
				ATn	Averaging time, non-cancer	9,125	days	USEPA 1989	
Dermal	Indoor Commercial / Industrial Worker	Adult	Workplace Tapwater	EPCgw	Exposure point concentration, groundwater	Chemical-specific	mg/L	See Table 3.3	Dermally Absorbed Dose (DAD) (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA 2004	DA_{event} × EV × ED × EF × SA × 1/BW × 1/AT
				EV	Event frequency	5	events/day	Professional judgment; Assumes dermal exposure during hand washing	
				ED	Exposure duration	25	years	USEPA 2014	Where for inorganic chemicals:
				EF	Exposure frequency	250	days/year	USEPA 2014	Absorbed Dose per Event (DA_{event}) (mg/cm^2-event) = DA_{event} = Kp × EPCgw × t-event × CF
				SA	Skin surface area available for contact	904	cm^2	Average of 50th percentile values for hands for adult males and females (USEPA 2004; Exhibit C-1).	
				Kp	Permeability coefficient	Chemical-specific	cm/hour	USEPA 2021a	And where for organic chemicals:
				t-event	Event duration	0.033	hours/event	Assumes 2 minutes per hand washing event	If t-event < t*, then: DA_{event} = 2FA × Kp × EPCgw × CF × SQRT{(6 × tau-event × t-event)/pi}
				CF	Volumetric conversion factor for water	0.001	L/cm^3	--	
				t*	Time to reach steady-state = 2.4×tau-event	Chemical-specific	hours	USEPA 2021a	If t-event > t*, then: DA_{event} = FA × Kp × EPCgw × CF × {(t-event/(1 + B)) + 2 × tau-event × ((1 + (3 × B) + (3 × B^2))/(1 + B)^2)}
				FA	Fraction absorbed	Chemical-specific	unitless	USEPA 2004	
				tau-event	Lag time per event	Chemical-specific	hours/event	USEPA 2021a	
				B	Ratio of permeability coefficient of a chemical through the stratum corneum relative to its permeability coefficient across the viable epidermis	Chemical-specific	unitless	USEPA 2021a	
				BW	Body weight	80	kg	USEPA 2014	
				ATc	Averaging time, cancer	25,550	days	USEPA 1989	
				ATn	Averaging time, non-cancer	9,125	days	USEPA 1989	
Inhalation	Indoor Commercial / Industrial Worker	Adult	Workplace Indoor Air	EPCa	Exposure point concentration, air	Chemical-specific	mg/m^3	Calculated	Exposure Concentration (mg/m^3) =
				ET	Exposure time	0.167	hours/day	USEPA 2014	EPCa × ET × EF × ED × 1/AT
				EF	Exposure frequency	250	days/year	USEPA 2014	
				ED	Exposure duration	25	years	USEPA 2014	where, for volatile constituents:
				VF-tap	Volatilization factor for tapwater	0.5	L/m^3	USEPA 2021b	EPCa = EPCgw × VF-tap
				ATc	Averaging time, cancer	613,200	hours	USEPA 2009	
				ATn	Averaging time, non-cancer	219,000	hours	USEPA 2009	

Notes:
USEPA - United States Environmental Protection Agency.
VDEQ - Virginia Department of Environmental Quality.

References:

USEPA. 1989. Risk Assessment Guidance for Superfund (RAGS): Volume 1, Human Health Evaluation Manual, Part A. EPA/5401-89/002. Office of Emergency and Remedial Response, Washington, DC. December.
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VDEQ. 2019. Voluntary Remediation Program Risk Assessment Guidance. Accessed online: https://www.deq.virginia.gov/Programs/LandProtectionRevitalization/RemediationProgram/VoluntaryRemediationProgram/VRP-RiskAssessmentGuidance/Guidance.aspx.

RAGS Part D Table 4.6
Values Used for Daily Intake Calculations - Reasonable Maximum Exposure
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Scenario Timeframe: Hypothetical Future
Medium: Off-site Groundwater
Exposure Medium: Potable Water

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
Ingestion	Off-site Resident	Adult	Nearby Residence	EPCgw	Exposure point concentration, groundwater	Chemical-specific	mg/L	See Table 3.3	Chronic Daily Intake (CDI) (mg/kg-day)=
				IRW	Ingestion rate	2.5	liters/day	USEPA 2014	EPCgw × IRW × EF × ED × 1/BW × 1/AT
				EF	Exposure frequency	350	days/year	USEPA 2014	
				ED	Exposure duration	20	years	USEPA 2014	
				BW	Body weight	80	kg	USEPA 2014	
				ATc	Averaging time, cancer	25,550	days	USEPA 1989	
				ATn	Averaging time, non-cancer	7,300	days	USEPA 1989	
		Child	Nearby Residence	EPCgw	Exposure point concentration, groundwater	Chemical-specific	mg/L	See Table 3.3	Chronic Daily Intake (CDI) (mg/kg-day)=
				IRW	Ingestion rate	0.78	liters/day	USEPA 2014	EPCgw × IRW × EF × ED × 1/BW × 1/AT
				EF	Exposure frequency	350	days/year	USEPA 2014	
				ED	Exposure duration	6	years	USEPA 2014	
				BW	Body weight	15	kg	USEPA 2014	
				ATc	Averaging time, cancer	25,550	days	USEPA 1989	
				ATn	Averaging time, non-cancer	2,190	days	USEPA 1989	
Dermal	Off-site Resident	Adult	Nearby Residence	EPCgw	Exposure point concentration, groundwater	Chemical-specific	mg/L	See Table 3.3	Dermally Absorbed Dose (DAD) (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA 2004	DA_{event} × EV × ED × EF × SA × 1/BW × 1/AT
				EV	Event frequency	1	events/day	USEPA 2014	
				ED	Exposure duration	20	years	USEPA 2014	Where for inorganic chemicals:
				EF	Exposure frequency	350	days/year	USEPA 2014	Absorbed Dose per Event (DA_{event}) (mg/cm^2-event) = DA_{event} = Kp × EPCgw × t-event × CF
				SA	Skin surface area available for contact	19,652	cm^2	USEPA 2014	
				Kp	Permeability coefficient	Chemical-specific	cm/hour	USEPA 2021a	And where for organic chemicals:
				t-event	Event duration	0.71	hours/event	USEPA 2014	If t-event < t*, then: DA_{event} = 2FA × Kp × EPCgw × CF × SQRT{(6 × tau-event × t-event)/pi}
				CF	Volumetric conversion factor for water	0.001	L/cm^3	--	
				t*	Time to reach steady-state = 2.4×tau-event	Chemical-specific	hours	USEPA 2021a	If t-event > t*, then: DA_{event} = FA × Kp × EPCgw × CF × {(t-event/(1 + B)) + 2 × tau-event × ((1 + (3 × B) + ($3 \times B^2$))/$(1 + B)^2$)}
				FA	Fraction absorbed	Chemical-specific	unitless	USEPA 2004	
				tau-event	Lag time per event	Chemical-specific	hours/event	USEPA 2021a	
				B	Ratio of permeability coefficient of a chemical through the stratum corneum relative to its permeability coefficient across the viable epidermis	Chemical-specific	unitless	USEPA 2021a	
				BW	Body weight	80	kg	USEPA 2014	
				ATc	Averaging time, cancer	25,550	days	USEPA 1989	
				ATn	Averaging time, non-cancer	7,300	days	USEPA 1989	

RAGS Part D Table 4.6
Values Used for Daily Intake Calculations - Reasonable Maximum Exposure
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Scenario Timeframe: Hypothetical Future
Medium: Off-site Groundwater
Exposure Medium: Potable Water

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
Dermal	Off-site Resident	Child	Nearby Residence	EPCgw	Exposure duration	Chemical-specific	mg/L	See Table 3.3	Dermally Absorbed Dose (DAD) (mg/kg-day) =
				DA_{event}	Absorbed dose per event	Chemical-specific	mg/cm^2-event	USEPA 2004	$DA_{event} \times EV \times ED \times EF \times SA \times 1/BW \times 1/AT$
				EV	Event frequency	1	events/day	USEPA 2014	
				ED	Exposure duration	6	years	USEPA 2014	Where for inorganic chemicals:
				EF	Exposure frequency	350	days/year	USEPA 2014	Absorbed Dose per Event (DA_{event}) (mg/cm^2-event) = $DA_{event} = Kp \times EPCgw \times t\text{-event} \times CF$
				SA	Skin surface area available for contact	6,365	cm^2	USEPA 2014	
				Kp	Permeability coefficient	Chemical-specific	cm/hour	USEPA 2021a	And where for organic chemicals:
				t-event	Event duration	0.54	hours/event	USEPA 2014	If t-event < t*, then: $DA_{event} = 2FA \times Kp \times EPCgw \times CF \times SQRT\{(6 \times \text{tau-event} \times \text{t-event})/pi\}$
				CF	Volumetric conversion factor for water	0.001	L/cm^3	--	
				t*	Time to reach steady-state = 2.4×tau-event	Chemical-specific	hours	USEPA 2021a	If t-event > t*, then: $DA_{event} = FA \times Kp \times EPCgw \times CF \times \{(\text{t-event}/(1 + B)) + 2 \times \text{tau-event} \times ((1 + (3 \times B) + (3 \times B^2))/(1 + B)^2)\}$
				FA	Fraction absorbed	Chemical-specific	unitless	USEPA 2004	
				tau-event	Lag time per event	Chemical-specific	hours/event	USEPA 2021a	
				B	Ratio of permeability coefficient of a chemical through the stratum corneum relative to its permeability coefficient across the viable epidermis	Chemical-specific	unitless	USEPA 2021a	
				BW	Body weight	15	kg	USEPA 2014	
				ATc	Averaging time, cancer	25,550	days	USEPA 1989	
				ATn	Averaging time, non-cancer	2,190	days	USEPA 1989	
Inhalation	Off-site Resident	Adult	Residence Indoor Air	EPCa	Exposure point concentration, air	Chemical-specific	mg/m^3	Calculated	Exposure Concentration (mg/m^3) =
				ET	Exposure time	24	hours/day	USEPA 2014	$EPCa \times ET \times EF \times ED \times 1/AT$
				EF	Exposure frequency	350	days/year	USEPA 2014	
				ED	Exposure duration	20	years	USEPA 2014	where, for volatile constituents:
				VF-tap	Volatilization factor for tapwater	0.5	L/m^3	USEPA 2021b	$EPCa = EPCgw \times VF\text{-tap}$
				ATc	Averaging time, cancer	613,200	hours	USEPA 2009	
				ATn	Averaging time, non-cancer	175,200	hours	USEPA 2009	
		Child	Residence Indoor Air	EPCa	Exposure point concentration, air	Chemical-specific	mg/m^3	Calculated	Exposure Concentration (mg/m^3) =
				ET	Exposure time	24	hours/day	USEPA 2014	$EPCa \times ET \times EF \times ED \times 1/AT$
				EF	Exposure frequency	350	days/year	USEPA 2014	
				ED	Exposure duration	6	years	USEPA 2014	where, for volatile constituents:
				VF-tap	Volatilization factor for tapwater	0.5	L/m^3	USEPA 2021b	$EPCa = EPCgw \times VF\text{-tap}$
				ATc	Averaging time, cancer	613,200	hours	USEPA 2009	
				ATn	Averaging time, non-cancer	52,560	hours	USEPA 2009	

Notes:
USEPA - United States Environmental Protection Agency.

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RAGS Part D Table 5.1, Chronic
Non-cancer Toxicity Data - Oral/Dermal
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Constituent of Potential Concern	Chronic Oral Reference Dose (RfD) Value	Units	Oral Absorption Efficiency for Dermal (1)	Chronic Absorbed RfD for Dermal Value (2)	Units	Primary Target Organ(s)	Combined Uncertainty/ Modifying Factors	RfD : Target Organ(s) Source(s)	Date(s)
2-Hexanone	5.0E-03	mg/kg-day	1	5.0E-03	mg/kg-day	Nervous System	1000 / 1	IRIS	9/25/2009
Benzene	4.0E-03	mg/kg-day	1	4.0E-03	mg/kg-day	Immune	300 / 1	IRIS	4/17/2003
Benzo(a)anthracene	NA	--	NA	NA	mg/kg-day	NA	NA / NA	NA	NA
Benzo(a)pyrene	3.0E-04	mg/kg-day	1	3.0E-04	mg/kg-day	Developmental	300 / 1	IRIS	1/19/2017
Benzo(b)fluoranthene	NA	--	NA	NA	mg/kg-day	NA	NA / NA	NA	NA
Chloroform	1.0E-02	mg/kg-day	1	1.0E-02	mg/kg-day	Liver	100 / 1	IRIS	10/19/2001
Dibenz(a,h)anthracene	NA	--	NA	NA	mg/kg-day	NA	NA / NA	NA	NA
Ethylbenzene	1.0E-01	mg/kg-day	1	1.0E-01	mg/kg-day	Liver; Urinary	1000 / 1	IRIS	1/31/1987
Indeno(1,2,3-cd)pyrene	NA	--	NA	NA	mg/kg-day	NA	NA / NA	NA	NA
o-Xylene	2.0E-01	mg/kg-day	1	2.0E-01	mg/kg-day	Whole Body	1000 / 1	RSL	05/2021
Trichloroethene (TCE)	5.0E-04	mg/kg-day	1	5.0E-04	mg/kg-day	Developmental; Immune	Multiple* / 1	IRIS	9/28/2011
2-Methylnaphthalene	4.0E-03	mg/kg-day	1	4.0E-03	mg/kg-day	Lungs	1000 / 1	IRIS	12/22/2003
Bis(2-ethylhexyl)phthalate	2.0E-02	mg/kg-day	1	2.0E-02	mg/kg-day	Liver	1000 / 1	IRIS	1/31/1987
Naphthalene	2.0E-02	mg/kg-day	1	2.0E-02	mg/kg-day	Body Weight	3000 / 1	IRIS	9/17/1998
Aluminum	1.0E+00	mg/kg-day	1	1.0E+00	mg/kg-day	Neurological	100 / NA	PPRTV	10/29/2006
Antimony	4.0E-04	mg/kg-day	0.15	6.0E-05	mg/kg-day	Hematologic; Other	1000 / 1	IRIS	1/31/1987
Barium	2.0E-01	mg/kg-day	0.07	1.4E-02	mg/kg-day	Urinary	300 / 1	IRIS	7/11/2005
Chromium VI	3.0E-03	mg/kg-day	0.025	7.5E-05	mg/kg-day	None	300 / 3	IRIS	9/3/1998
Manganese	2.4E-02	mg/kg-day	0.04	9.6E-04	mg/kg-day	Nervous System	1 / 1	RSL	05/2021
Nickel	2.0E-02	mg/kg-day	0.04	8.0E-04	mg/kg-day	Body Weight	300 / 1	IRIS	12/1/1991
Thallium	1.0E-05	mg/kg-day	1	1.0E-05	mg/kg-day	Skin	3000 / NA	SCREEN	11/1/2012
Vanadium	5.0E-03	mg/kg-day	0.026	1.3E-04	mg/kg-day	Dermal	100 / 1	RSL	05/2021

Notes:
(1) Gastrointestinal absorption efficiencies are from RAGS Part E, Exhibit 4-1 (USEPA, 2004).
(2) Dermal RfD was obtained by multiplying the oral RfD by the gastrointestinal absorption efficiency.
* The chronic RfD for TCE was selected from multiple effects/studies. Uncertainty factors of 10, 100 and 1,000 were used in the supporting studies for three candidate RfDs.
NA = not available.
-- = not applicable.

Hierarchy of Sources:
IRIS = Integrated Risk Information System (USEPA, 2021d).
PPRTV = Provisional Peer-Reviewed Toxicity Value (USEPA, 2021e).
CalEPA = California Environmental Protection Agency, Office of Environmental Health Hazard Assessment (http://oehha.ca.gov/tcdb/index.asp).
ATSDR = Agency for Toxic Substances and Disease Registry, Minimal Risk Level (ATSDR, March 2021).
SCREEN = National Center for Environmental Assessment, Provisional Peer-Reviewed Toxicity Value appendix screening toxicity value (USEPA, 2021e).
HEAST = Health Effects Assessment Summary Tables (USEPA, 1997a).

RAGS Part D Table 5.1, Subchronic
Non-cancer Toxicity Data - Oral/Dermal
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Constituent of Potential Concern	Subchronic Oral Reference Dose (SRfD) Value	Units	Oral Absorption Efficiency for Dermal (1)	Subchronic Absorbed RfD for Dermal Value (2)	Units	Primary Target Organ(s)	Combined Uncertainty/ Modifying Factors	RfD : Target Organ(s) Source(s)	Date(s)
2-Hexanone	NA	mg/kg-day	NA	NA	mg/kg-day	NA	NA / NA	NA	NA
Benzene	1.0E-02	mg/kg-day	1	1.0E-02	mg/kg-day	Blood	100 / NA	PPRTV	09/29/2009
Benzo(a)anthracene	NA	mg/kg-day	NA	NA	mg/kg-day	NA	NA / NA	NA	NA
Benzo(a)pyrene	NA	mg/kg-day	NA	NA	mg/kg-day	NA	NA / NA	NA	NA
Benzo(b)fluoranthene	NA	mg/kg-day	NA	NA	mg/kg-day	NA	NA / NA	NA	NA
Chloroform	1.0E-01	mg/kg-day	1	1.0E-01	mg/kg-day	Liver	100 / NA	ATSDR	09/1997
Dibenz(a,h)anthracene	NA	mg/kg-day	NA	NA	mg/kg-day	NA	NA / NA	NA	NA
Ethylbenzene	5.0E-02	mg/kg-day	1	5.0E-02	mg/kg-day	Liver	1000 / NA	PPRTV	09/10/2009
Indeno(1,2,3-cd)pyrene	NA	mg/kg-day	NA	NA	mg/kg-day	NA	NA / NA	NA	NA
o-Xylene	NA	mg/kg-day	NA	NA	mg/kg-day	NA	NA / NA	NA	NA
Trichloroethene (TCE)	5.0E-04	mg/kg-day	1	5.0E-04	mg/kg-day	Developmental; Immunological	Multiple* / NA	ATSDR	06/2019
2-Methylnaphthalene	4.0E-03	mg/kg-day	1	4.0E-03	mg/kg-day	Lungs	1000 / NA	PPRTV	09/18/2007
Bis(2-ethylhexyl)phthalate	1.0E-04	mg/kg-day	1	1.0E-04	mg/kg-day	Developmental	300	ATSDR	12/2019
Naphthalene	6.0E-01	mg/kg-day	1	6.0E-01	mg/kg-day	Neurological	90 / NA	ATSDR	08/2005
Aluminum	1.0E+00	mg/kg-day	1	1.0E+00	mg/kg-day	Neurological	30 / NA	ATSDR	09/2008
Antimony	4.0E-04	mg/kg-day	0.15	6.0E-05	mg/kg-day	Whole body	1000 / NA	PPRTV	07/30/2008
Barium	2.0E-01	mg/kg-day	0.07	1.4E-02	mg/kg-day	Renal	300 / NA	ATSDR	08/2007
Chromium VI	5.0E-03	mg/kg-day	0.025	1.3E-04	mg/kg-day	Blood	100 / NA	ATSDR	09/2012
Manganese	1.4E-01	mg/kg-day	0.04	5.6E-03	mg/kg-day	Nervous System	1 / NA	HEAST	1997
Nickel	2.0E-02	mg/kg-day	0.04	8.0E-04	mg/kg-day	Whole body	300 / NA	HEAST	1997
Thallium	4.0E-05	mg/kg-day	1	4.0E-05	mg/kg-day	Skin	1000 / NA	SCREEN	11/01/2012
Vanadium	1.0E-02	mg/kg-day	0.026	2.6E-04	mg/kg-day	Hematological	10 / NA	ATSDR	09/2012

Notes:
(1) Gastrointestinal absorption efficiencies are from RAGS Part E, Exhibit 4-1 (USEPA, 2004).
(2) Dermal RfD was obtained by multiplying the oral RfD by the gastrointestinal absorption efficiency.
* The subchronic RfD for TCE was selected from multiple effects/studies. Uncertainty factors of 10, 100 and 1,000 were used in the supporting studies for three candidate RfDs.
NA = not available.
-- = not applicable.

Hierarchy of Sources:
IRIS = Integrated Risk Information System (USEPA, 2021d).
PPRTV = Provisional Peer-Reviewed Toxicity Value (USEPA, 2021e).
ATSDR = Agency for Toxic Substances and Disease Registry, Minimal Risk Level (ATSDR, March 2021).
HEAST = Health Effects Assessment Summary Tables (USEPA, 1997a).
SCREEN = National Center for Environmental Assessment, Provisional Peer-Reviewed Toxicity Value appendix screening toxicity value (USEPA, 2021e).

RAGS Part D Table 5.2, Chronic
Non-cancer Toxicity Data - Inhalation
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Constituent of Potential Concern	Chronic Inhalation Reference Concentration (RfC)		Primary Target Organ(s)	Combined Uncertainty/Modifying Factors	RfC : Target Organ(s)	
	Value	Units			Source(s)	Date(s)
2-Hexanone	3.0E-02	mg/m³	Nervous system	3000 / 1	IRIS	9/25/2009
Benzene	3.0E-02	mg/m³	Immune	300 / 1	IRIS	4/17/2003
Benzo(a)anthracene	NA	--	NA	NA / NA	NA	NA
Benzo(a)pyrene	2.0E-06	mg/m³	Developmental	3000 / 1	IRIS	1/19/2017
Benzo(b)fluoranthene	NA	--	NA	NA / NA	NA	NA
Chloroform	9.8E-02	mg/m³	Kidney	100 / NA	ATSDR	09/1997
Dibenz(a,h)anthracene	NA	--	NA	NA / NA	NA	NA
Ethylbenzene	1.0E+00	mg/m³	Developmental	300 / 1	IRIS	3/1/1991
Indeno(1,2,3-cd)pyrene	NA	--	NA	NA / NA	NA	NA
o-Xylene	1.0E-01	mg/m³	Nervous System	300 / 1	RSL	05/2021
Trichloroethene (TCE)	2.0E-03	mg/m³	Developmental; Immune	Multiple* / 1	IRIS	9/28/2011
2-Methylnaphthalene	NA	--	NA	NA / NA	NA	NA
Bis(2-ethylhexyl)phthalate	NA	--	NA	NA / NA	NA	NA
Naphthalene	3.0E-03	mg/m³	Nervous System; Respiratory System	3000 / 1	IRIS	9/17/1998
Aluminum	5.0E-03	mg/m³	Neurological	300 / NA	PPRTV	10/29/2006
Antimony	3.0E-04	mg/m³	Respiratory	30 / NA	ATSDR	10/2019
Barium	5.0E-04	mg/m³	Reproduction	1000 / NA	HEAST	1997
Chromium VI	1.0E-04	mg/m³	Lungs	300 / 1	IRIS	9/3/1998
Manganese	5.0E-05	mg/m³	Nervous System	1000 / 1	IRIS	12/1/1993
Nickel	9.0E-05	mg/m³	Respiratory	30 / NA	ATSDR	08/2005
Thallium	NA	--	NA	NA / NA	NA	NA
Vanadium	1.0E-04	mg/m³	Respiratory	30 / NA	ATSDR	09/2012

Notes:
* The chronic RfC for TCE was selected from multiple effects/studies. Uncertainty factors of 10 and 100 were used in the supporting studies for two candidate RfCs.
NA = not available.
-- = not applicable.

Hierarchy of Sources:
IRIS = Integrated Risk Information System (USEPA, 2021d).
PPRTV = Provisional Peer-Reviewed Toxicity Value (USEPA, 2021e).
CalEPA = California Environmental Protection Agency, Office of Environmental Health Hazard Assessment (http://oehha.ca.gov/tcdb/index.asp).
ATSDR = Agency for Toxic Substances and Disease Registry, Minimal Risk Level (ATSDR, March 2021).
HEAST = Health Effects Assessment Summary Tables (USEPA, 1997a).

RAGS Part D Table 5.2, Subchronic
Non-cancer Toxicity Data - Inhalation
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Constituent of Potential Concern	Subchronic Inhalation Reference Concentration (SRfC) Value	Units	Primary Target Organ(s)	Combined Uncertainty/Modifying Factors	RfC : Target Organ(s) Source(s)	Date(s)
2-Hexanone	NA	--	NA	NA / NA	NA	NA
Benzene	8.0E-02	mg/m³	Blood	100 / NA	PPRTV	09/29/2009
Benzo(a)anthracene	NA	--	NA	NA / NA	NA	NA
Benzo(a)pyrene	NA	--	NA	NA / NA	NA	NA
Benzo(b)fluoranthene	NA	--	NA	NA / NA	NA	NA
Chloroform	2.4E-01	mg/m³	Liver	300 / NA	ATSDR	9/1997
Dibenz(a,h)anthracene	NA	--	NA	NA / NA	NA	NA
Ethylbenzene	9.0E+00	mg/m³	Ear	100 / NA	PPRTV	09/10/2009
Indeno(1,2,3-cd)pyrene	NA	--	NA	NA / NA	NA	NA
o-Xylene	NA	--	NA	NA / NA	NA	NA
Trichloroethene (TCE)	2.2E-03	mg/m³	Development; Immunological	Multiple* / NA	ATSDR	06/2019
2-Methylnaphthalene	NA	--	NA	NA / NA	NA	NA
Bis(2-ethylhexyl)phthalate	3.2E+00	mg/m³	Development	300	ATSDR	12/2019
Naphthalene	NA	--	NA	NA / NA	NA	NA
Aluminum	NA	--	NA	NA / NA	NA	NA
Antimony	1.0E-03	mg/m³	Lungs	30 / NA	ATSDR	10/2019
Barium	5.0E-03	mg/m³	Fetus	100 / NA	HEAST	1997
Chromium VI	3.0E-04	mg/m³	Respiratory	30 / NA	ATSDR	09/2012
Manganese	NA	--	NA	NA / NA	NA	NA
Nickel	2.0E-04	mg/m³	Respiratory	30 / NA	ATSDR	08/2005
Thallium	NA	--	NA	NA / NA	NA	NA
Vanadium	NA	--	NA	NA / NA	NA	NA

Notes:
* The subchronic RfC for TCE was selected from multiple effects/studies. Uncertainty factors of 10 and 100 were used in the supporting studies for two candidate RfCs.
NA = not available.
-- = not applicable.

Hierarchy of Sources:
IRIS = Integrated Risk Information System (USEPA, 2021d).
PPRTV = Provisional Peer-Reviewed Toxicity Value (USEPA, 2021e).
ATSDR = Agency for Toxic Substances and Disease Registry, Minimal Risk Level (ATSDR, March 2021).
HEAST = Health Effects Assessment Summary Tables (USEPA, 1997a).

RAGS Part D Table 6.1
Cancer Toxicity Data - Oral/Dermal
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Constituent of Potential Concern	Oral Cancer Slope Factor (CSF)		Oral Absorption Efficiency for Dermal (1)	Absorbed Cancer Slope Factor for Dermal		USEPA (2021d) Weight of Evidence Classification / Cancer Guideline Description	Oral CSF	
	Value	Units		Value (2)	Units		Source(s)	Date(s)
2-Hexanone	NA	--	NA	NA	--	--	--	--
Benzene	5.50E-02	$(mg/kg\text{-}day)^{-1}$	1	5.50E-02	$(mg/kg\text{-}day)^{-1}$	Known/likely human carcinogen	IRIS	1/19/2000
Benzo(a)anthracene	1.00E-01	$(mg/kg\text{-}day)^{-1}$	1	1.00E-01	$(mg/kg\text{-}day)^{-1}$	B2, Probable human carcinogen	USEPA, 1993	
Benzo(a)pyrene	1.00E+00	$(mg/kg\text{-}day)^{-1}$	1	1.00E+00	$(mg/kg\text{-}day)^{-1}$	Carcinogenic to humans	IRIS	1/19/2017
Benzo(b)fluoranthene	1.00E-01	$(mg/kg\text{-}day)^{-1}$	1	1.00E-01	$(mg/kg\text{-}day)^{-1}$	B2, Probable human carcinogen	USEPA, 1993	
Chloroform	3.10E-02	$(mg/kg\text{-}day)^{-1}$	1	3.10E-02	$(mg/kg\text{-}day)^{-1}$	Likely to be carcinogenic to humans	CalEPA	2011
Dibenz(a,h)anthracene	1.00E+00	$(mg/kg\text{-}day)^{-1}$	1	1.00E+00	$(mg/kg\text{-}day)^{-1}$	B2, Probable human carcinogen	USEPA, 1993	
Ethylbenzene	1.10E-02	$(mg/kg\text{-}day)^{-1}$	1	1.10E-02	$(mg/kg\text{-}day)^{-1}$	D, Not classifiable	CalEPA	2011
Indeno(1,2,3-cd)pyrene	1.00E-01	$(mg/kg\text{-}day)^{-1}$	1	1.00E-01	$(mg/kg\text{-}day)^{-1}$	B2, Probable human carcinogen	USEPA, 1993	
o-Xylene	NA	--	NA	NA	--	--	--	--
Trichloroethene (TCE)	4.60E-02	$(mg/kg\text{-}day)^{-1}$	1	4.60E-02	$(mg/kg\text{-}day)^{-1}$	Carcinogenic to humans	IRIS	9/28/2011
2-Methylnaphthalene	NA	--	NA	NA	--	--	--	--
Bis(2-ethylhexyl)phthalate	1.40E-02	$(mg/kg\text{-}day)^{-1}$	1	1.40E-02	$(mg/kg\text{-}day)^{-1}$	B2, Probable human carcinogen	IRIS	9/7/1988
Naphthalene	1.20E-01	$(mg/kg\text{-}day)^{-1}$	1	1.20E-01	$(mg/kg\text{-}day)^{-1}$	Carcinogenic potential cannot be determined	CalEPA	2011
Aluminum	NA	--	NA	NA	--	--	--	--
Antimony	NA	--	NA	NA	--	--	--	--
Barium	NA	--	NA	NA	--	--	--	--
Chromium VI	5.00E-01	$(mg/kg\text{-}day)^{-1}$	0.025	2.00E+01	$(mg/kg\text{-}day)^{-1}$	Carcinogenic potential cannot be determined	CalEPA	2011
Manganese	NA	--	NA	NA	--	--	--	--
Nickel	NA	--	NA	NA	--	--	--	--
Thallium	NA	--	NA	NA	--	--	--	--
Vanadium	NA	--	NA	NA	--	--	--	--

Notes:
(1) Gastrointestinal absorption efficiencies are from RAGS Part E, Exhibit 4-1 (USEPA, 2004).
(2) Dermal CSF was obtained by dividing the oral CSF by the gastrointestinal absorption efficiency.
NA = not available.
-- = not applicable.

Hierarchy of Sources:
IRIS = Integrated Risk Information System (USEPA, 2021d).
PPRTV = Provisional Peer-Reviewed Toxicity Value (USEPA, 2021e).
CalEPA = California Environmental Protection Agency, Office of Environmental Health Hazard Assessment (http://oehha.ca.gov/tcdb/index.asp).
HEAST = Health Effects Assessment Summary Tables (USEPA, 1997a).

USEPA (1986) Weight of Evidence Classifications:
A - Human carcinogen.
B1 - Probable human carcinogen - indicates that limited human data are available.
B2 - Probable human carcinogen - indicates sufficient evidence in animals and inadequate or no evidence in humans.
C - Possible human carcinogen.
D - Not classifiable as a human carcinogen.
E - Evidence of noncarcinogenicity.

RAGS Part D Table 6.2
Cancer Toxicity Data - Inhalation
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Constituent of Potential Concern	Unit Risk		USEPA (2021d) Weight of Evidence Classification / Cancer Guideline Description	Unit Risk	
	Value	Units		Source(s)	Date(s)
2-Hexanone	NA	NA	--	--	--
Benzene	7.80E-06	$(\mu g/m^3)^{-1}$	Known/likely human carcinogen	IRIS	1/19/2000
Benzo(a)anthracene	6.00E-05	$(\mu g/m^3)^{-1}$	B2, Probable human carcinogen	USEPA, 1993	
Benzo(a)pyrene	6.00E-04	$(\mu g/m^3)^{-1}$	Carcinogenic to humans	IRIS	1/19/2017
Benzo(b)fluoranthene	6.00E-05	$(\mu g/m^3)^{-1}$	B2, Probable human carcinogen	USEPA, 1993	
Chloroform	2.30E-05	$(\mu g/m^3)^{-1}$	Likely to be carcinogenic to humans	IRIS	10/19/2001
Dibenz(a,h)anthracene	6.00E-04	$(\mu g/m^3)^{-1}$	B2, Probable human carcinogen	USEPA, 1993	
Ethylbenzene	2.50E-06	$(\mu g/m^3)^{-1}$	D, Not classifiable	CalEPA	2011
Indeno(1,2,3-cd)pyrene	6.00E-05	$(\mu g/m^3)^{-1}$	B2, Probable human carcinogen	USEPA, 1993	
o-Xylene	NA	NA	--	--	--
Trichloroethene (TCE)	4.10E-06	$(\mu g/m^3)^{-1}$	Carcinogenic to humans	IRIS	9/28/2011
2-Methylnaphthalene	NA	NA	--	--	--
Bis(2-ethylhexyl)phthalate	2.40E-06	$(\mu g/m^3)^{-1}$	B2, Probable human carcinogen	CalEPA	2011
Naphthalene	3.40E-05	$(\mu g/m^3)^{-1}$	Carcinogenic potential cannot be determined	CalEPA	2011
Aluminum	NA	NA	--	--	--
Antimony	NA	NA	--	--	--
Barium	NA	NA	Carcinogenic potential cannot be determined	--	--
Chromium VI	1.20E-02	$(\mu g/m^3)^{-1}$	Known/likely human carcinogen	IRIS	9/3/1998
Manganese	NA	NA	--	--	--
Nickel	2.60E-04	$(\mu g/m^3)^{-1}$	NA	CalEPA	2011
Thallium	NA	NA	--	--	--
Vanadium	NA	NA	--	--	--

Notes:
NA = not available.
-- = not applicable.

Hierarchy of Sources:
IRIS = Integrated Risk Information System (USEPA, 2021d).
PPRTV = Provisional Peer-Reviewed Toxicity Value (USEPA, 2021e).
CalEPA = California Environmental Protection Agency, Office of Environmental Health Hazard Assessment (http://oehha.ca.gov/tcdb/index.asp).
HEAST = Health Effects Assessment Summary Tables (USEPA, 1997a).

USEPA (1986) Weight of Evidence Classifications:
A - Human carcinogen.
B1 - Probable human carcinogen - indicates that limited human data are available.
B2 - Probable human carcinogen - indicates sufficient evidence in animals and inadequate or no evidence in humans.
C - Possible human carcinogen.
D - Not classifiable as a human carcinogen.
E - Evidence of noncarcinogenicity.

RAGS Part D Table 7.1
Calculation of Chemical Cancer Risks and Non-Cancer Hazards for a Current/Most Likely Future Indoor Commercial / Industrial Worker Exposure to Surface Soil (0-1 ft bgs)
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Scenario Timeframe:	Current/Most Likely Future
Receptor Population:	Indoor Commercial / Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil	Surface Soil (0-1 ft bgs)	Former Launch Area	Ingestion	Benzo(a)anthracene	2.4E+00	mg/kg	3.7E-07	mg/kg-day	1.0E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	1.0E-06	mg/kg-day	NA	--	--
				Benzo(a)pyrene	2.7E+00	mg/kg	4.1E-07	mg/kg-day	1.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	1.1E-06	mg/kg-day	3.0E-04	mg/kg-day	4E-03
				Benzo(b)fluoranthene	3.6E+00	mg/kg	5.5E-07	mg/kg-day	1.0E-01	$(mg/kg\text{-}day)^{-1}$	6E-08	1.6E-06	mg/kg-day	NA	--	--
				Dibenzo(a,h)anthracene	3.9E-01	mg/kg	6.0E-08	mg/kg-day	1.0E+00	$(mg/kg\text{-}day)^{-1}$	6E-08	1.7E-07	mg/kg-day	NA	--	--
				Indeno(1,2,3-cd)pyrene	1.7E+00	mg/kg	2.6E-07	mg/kg-day	1.0E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	7.2E-07	mg/kg-day	NA	--	--
				Chromium VI	5.8E-01	mg/kg	8.9E-08	mg/kg-day	5.0E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	2.5E-07	mg/kg-day	3.0E-03	mg/kg-day	8E-05
				Manganese	9.0E+02	mg/kg	1.4E-04	mg/kg-day	NA	--	--	3.8E-04	mg/kg-day	2.4E-02	mg/kg-day	2E-02
			Exp. Route Total								6E-07					2E-02
		Exposure Point Total									6E-07					2E-02
	Exposure Medium Total										6E-07					2E-02
	Outdoor Air	Former Launch Area	Inhalation	Benzo(a)anthracene	5.8E-07	mg/m^3	4.7E-08	mg/m^3	6.0E-02	$(mg/m^3)^{-1}$	3E-09	1.3E-07	mg/m^3	NA	--	--
				Benzo(a)pyrene	2.0E-09	mg/m^3	1.6E-10	mg/m^3	6.0E-01	$(mg/m^3)^{-1}$	1E-10	4.5E-10	mg/m^3	2.0E-06	mg/m^3	2E-04
				Benzo(b)fluoranthene	2.7E-09	mg/m^3	2.2E-10	mg/m^3	6.0E-02	$(mg/m^3)^{-1}$	1E-11	6.1E-10	mg/m^3	NA	--	--
				Dibenzo(a,h)anthracene	2.9E-10	mg/m^3	2.4E-11	mg/m^3	6.0E-01	$(mg/m^3)^{-1}$	1E-11	6.6E-11	mg/m^3	NA	--	--
				Indeno(1,2,3-cd)pyrene	1.2E-09	mg/m^3	1.0E-10	mg/m^3	6.0E-02	$(mg/m^3)^{-1}$	6E-12	2.8E-10	mg/m^3	NA	--	--
				Chromium VI	4.3E-10	mg/m^3	3.5E-11	mg/m^3	1.2E+01	$(mg/m^3)^{-1}$	4E-10	9.8E-11	mg/m^3	1.0E-04	mg/m^3	1E-06
				Manganese	6.6E-07	mg/m^3	5.4E-08	mg/m^3	NA	--	--	1.5E-07	mg/m^3	5.0E-05	mg/m^3	3E-03
			Exp. Route Total								3E-09					3E-03
		Exposure Point Total									3E-09					3E-03
	Exposure Medium Total										3E-09					3E-03
									Total of Receptor Risks for Exposure Scenario		6E-07			Total of Receptor Risks for Exposure Scenario		2E-02

Notes:
-- = not applicable.
EPC = exposure point concentration.
ft bgs = feet below ground surface.
mg/kg = milligrams per kilogram.
mg/kg-day = milligrams per kilogram per day.
$(mg/kg\text{-}day)^{-1}$ = inverse milligrams per kilogram per day.
mg/m^3 = milligrams per cubic meter.
$(mg/m^3)^{-1}$ = inverse milligrams per cubic meter.
NA = not available.
N/A = dermal exposure route not evaluated.

RAGS Part D Table 7.2
Calculation of Chemical Cancer Risks and Non-Cancer Hazards for a Current/Most Likely Future Outdoor Maintenance Worker Exposure to Surface Soil (0-1 ft bgs)
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Scenario Timeframe:	Current/Most Likely Future
Receptor Population:	Outdoor Maintenance Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil	Surface Soil (0-1 ft bgs)	Former Launch Area	Ingestion	Benzo(a)anthracene	2.4E+00	mg/kg	6.7E-07	mg/kg-day	1.0E-01	$(mg/kg\text{-}day)^{-1}$	7E-08	1.9E-06	mg/kg-day	NA	--	--
				Benzo(a)pyrene	2.7E+00	mg/kg	7.4E-07	mg/kg-day	1.0E+00	$(mg/kg\text{-}day)^{-1}$	7E-07	2.1E-06	mg/kg-day	3.0E-04	mg/kg-day	7E-03
				Benzo(b)fluoranthene	3.6E+00	mg/kg	1.0E-06	mg/kg-day	1.0E-01	$(mg/kg\text{-}day)^{-1}$	1E-07	2.8E-06	mg/kg-day	NA	--	--
				Dibenzo(a,h)anthracene	3.9E-01	mg/kg	1.1E-07	mg/kg-day	1.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-07	3.0E-07	mg/kg-day	NA	--	--
				Indeno(1,2,3-cd)pyrene	1.7E+00	mg/kg	4.6E-07	mg/kg-day	1.0E-01	$(mg/kg\text{-}day)^{-1}$	5E-08	1.3E-06	mg/kg-day	NA	--	--
				Chromium VI	5.8E-01	mg/kg	1.6E-07	mg/kg-day	5.0E-01	$(mg/kg\text{-}day)^{-1}$	8E-08	4.5E-07	mg/kg-day	3.0E-03	mg/kg-day	2E-04
				Manganese	9.0E+02	mg/kg	2.5E-04	mg/kg-day	NA	--	--	6.9E-04	mg/kg-day	2.4E-02	mg/kg-day	3E-02
			Exp. Route Total								1E-06					4E-02
			Dermal	Benzo(a)anthracene	2.4E+00	mg/kg	3.7E-07	mg/kg-day	1.0E-01	$(mg/kg\text{-}day)^{-1}$	4E-08	1.0E-06	mg/kg-day	NA	--	--
				Benzo(a)pyrene	2.7E+00	mg/kg	4.1E-07	mg/kg-day	1.0E+00	$(mg/kg\text{-}day)^{-1}$	4E-07	1.1E-06	mg/kg-day	3.0E-04	mg/kg-day	4E-03
				Benzo(b)fluoranthene	3.6E+00	mg/kg	5.5E-07	mg/kg-day	1.0E-01	$(mg/kg\text{-}day)^{-1}$	5E-08	1.5E-06	mg/kg-day	NA	--	--
				Dibenzo(a,h)anthracene	3.9E-01	mg/kg	6.0E-08	mg/kg-day	1.0E+00	$(mg/kg\text{-}day)^{-1}$	6E-08	1.7E-07	mg/kg-day	NA	--	--
				Indeno(1,2,3-cd)pyrene	1.7E+00	mg/kg	2.5E-07	mg/kg-day	1.0E-01	$(mg/kg\text{-}day)^{-1}$	3E-08	7.1E-07	mg/kg-day	NA	--	--
				Chromium VI	5.8E-01	mg/kg	N/A	--	2.0E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	--	7.5E-05	mg/kg-day	--
				Manganese	9.0E+02	mg/kg	N/A	--	NA	--	--	N/A	--	9.6E-04	mg/kg-day	--
			Exp. Route Total								6E-07					4E-03
		Exposure Point Total									2E-06					4E-02
	Exposure Medium Total										2E-06					4E-02
	Outdoor Air	Former Launch Area	Inhalation	Benzo(a)anthracene	5.8E-07	mg/m^3	4.3E-08	mg/m^3	6.0E-02	$(mg/m^3)^{-1}$	3E-09	1.2E-07	mg/m^3	NA	--	--
				Benzo(a)pyrene	2.0E-09	mg/m^3	1.4E-10	mg/m^3	6.0E-01	$(mg/m^3)^{-1}$	9E-11	4.0E-10	mg/m^3	2.0E-06	mg/m^3	2E-04
				Benzo(b)fluoranthene	2.7E-09	mg/m^3	2.0E-10	mg/m^3	6.0E-02	$(mg/m^3)^{-1}$	1E-11	5.5E-10	mg/m^3	NA	--	--
				Dibenzo(a,h)anthracene	2.9E-10	mg/m^3	2.1E-11	mg/m^3	6.0E-01	$(mg/m^3)^{-1}$	1E-11	6.0E-11	mg/m^3	NA	--	--
				Indeno(1,2,3-cd)pyrene	1.2E-09	mg/m^3	9.0E-11	mg/m^3	6.0E-02	$(mg/m^3)^{-1}$	5E-12	2.5E-10	mg/m^3	NA	--	--
				Chromium VI	4.3E-10	mg/m^3	3.2E-11	mg/m^3	1.2E+01	$(mg/m^3)^{-1}$	4E-10	8.8E-11	mg/m^3	1.0E-04	mg/m^3	9E-07
				Manganese	6.6E-07	mg/m^3	4.8E-08	mg/m^3	NA	--	--	1.4E-07	mg/m^3	5.0E-05	mg/m^3	3E-03
			Exp. Route Total								3E-09					3E-03
		Exposure Point Total									3E-09					3E-03
	Exposure Medium Total										3E-09					3E-03
							Total of Receptor Risks for Exposure Scenario				2E-06	Total of Receptor Risks for Exposure Scenario				4E-02

Notes:
-- = not applicable.
EPC = exposure point concentration.
ft bgs = feet below ground surface.
mg/kg = milligrams per kilogram.
mg/kg-day = milligrams per kilogram per day.
$(mg/kg\text{-}day)^{-1}$ = inverse milligrams per kilogram per day.
mg/m^3 = milligrams per cubic meter.
$(mg/m^3)^{-1}$ = inverse milligrams per cubic meter.
NA = not available.
N/A = dermal exposure route not evaluated.

RAGS Part D Table 7.3
Calculation of Chemical Cancer Risks and Non-Cancer Hazards for a Current/Most Likely Future Construction / Utility Worker Exposure to Surface and Subsurface Soil (1-10 ft bgs)
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Scenario Timeframe:	Current/Most Likely Future
Receptor Population:	Construction / Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil	Surface and Subsurface Soil (0-10 ft bgs)	Former Launch Area	Ingestion	Benzo(a)anthracene	1.1E+00	mg/kg	2.2E-08	mg/kg-day	1.0E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	1.5E-06	mg/kg-day	NA	--	--
				Benzo(a)pyrene	1.2E+00	mg/kg	2.4E-08	mg/kg-day	1.0E+00	$(mg/kg\text{-}day)^{-1}$	2E-08	1.7E-06	mg/kg-day	3.0E-04	mg/kg-day	6E-03
				Benzo(b)fluoranthene	1.6E+00	mg/kg	3.3E-08	mg/kg-day	1.0E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	2.3E-06	mg/kg-day	NA	--	--
				Dibenzo(a,h)anthracene	1.2E-01	mg/kg	2.5E-09	mg/kg-day	1.0E+00	$(mg/kg\text{-}day)^{-1}$	3E-09	1.8E-07	mg/kg-day	NA	--	--
				Indeno(1,2,3-cd)pyrene	8.8E-01	mg/kg	1.8E-08	mg/kg-day	1.0E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	1.2E-06	mg/kg-day	NA	--	--
				Chromium VI	4.6E-01	mg/kg	9.2E-09	mg/kg-day	5.0E-01	$(mg/kg\text{-}day)^{-1}$	5E-09	6.5E-07	mg/kg-day	5.0E-03	mg/kg-day	1E-04
				Manganese	6.6E+02	mg/kg	1.3E-05	mg/kg-day	NA	--	--	9.4E-04	mg/kg-day	1.4E-01	mg/kg-day	7E-03
			Exp. Route Total								4E-08					1E-02
			Dermal	Benzo(a)anthracene	1.1E+00	mg/kg	9.1E-09	mg/kg-day	1.0E-01	$(mg/kg\text{-}day)^{-1}$	9E-10	6.3E-07	mg/kg-day	NA	--	--
				Benzo(a)pyrene	1.2E+00	mg/kg	1.0E-08	mg/kg-day	1.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-08	7.1E-07	mg/kg-day	3.0E-04	mg/kg-day	2E-03
				Benzo(b)fluoranthene	1.6E+00	mg/kg	1.4E-08	mg/kg-day	1.0E-01	$(mg/kg\text{-}day)^{-1}$	1E-09	9.5E-07	mg/kg-day	NA	--	--
				Dibenzo(a,h)anthracene	1.2E-01	mg/kg	1.1E-09	mg/kg-day	1.0E+00	$(mg/kg\text{-}day)^{-1}$	1E-09	7.4E-08	mg/kg-day	NA	--	--
				Indeno(1,2,3-cd)pyrene	8.8E-01	mg/kg	7.4E-09	mg/kg-day	1.0E-01	$(mg/kg\text{-}day)^{-1}$	7E-10	5.2E-07	mg/kg-day	NA	--	--
				Chromium VI	4.6E-01	mg/kg	N/A	--	2.0E+01	$(mg/kg\text{-}day)^{-1}$	--	N/A	--	1.3E-04	mg/kg-day	--
				Manganese	6.6E+02	mg/kg	N/A	--	NA	--	--	N/A	--	5.6E-03	mg/kg-day	--
			Exp. Route Total								1E-08					2E-03
		Exposure Point Total									5E-08					1E-02
	Exposure Medium Total										5E-08					1E-02
	Outdoor Air	Former Launch Area	Inhalation	Benzo(a)anthracene	1.5E-06	mg/m^3	2.4E-09	mg/m^3	6.0E-02	$(mg/m^3)^{-1}$	1E-10	1.7E-07	mg/m^3	NA	--	--
				Benzo(a)pyrene	3.1E-08	mg/m^3	5.1E-11	mg/m^3	6.0E-01	$(mg/m^3)^{-1}$	3E-11	3.5E-09	mg/m^3	2.0E-06	mg/m^3	2E-03
				Benzo(b)fluoranthene	4.2E-08	mg/m^3	6.8E-11	mg/m^3	6.0E-02	$(mg/m^3)^{-1}$	4E-12	4.8E-09	mg/m^3	NA	--	--
				Dibenzo(a,h)anthracene	3.2E-09	mg/m^3	5.3E-12	mg/m^3	6.0E-01	$(mg/m^3)^{-1}$	3E-12	3.7E-10	mg/m^3	NA	--	--
				Indeno(1,2,3-cd)pyrene	2.3E-08	mg/m^3	3.7E-11	mg/m^3	6.0E-02	$(mg/m^3)^{-1}$	2E-12	2.6E-09	mg/m^3	NA	--	--
				Chromium VI	1.2E-08	mg/m^3	1.9E-11	mg/m^3	1.2E+01	$(mg/m^3)^{-1}$	2E-10	1.4E-09	mg/m^3	3.0E-04	mg/m^3	5E-06
				Manganese	1.7E-05	mg/m^3	2.8E-08	mg/m^3	NA	--	--	2.0E-06	mg/m^3	5.0E-05	mg/m^3	4E-02
			Exp. Route Total								4E-10					4E-02
		Exposure Point Total									4E-10					4E-02
	Exposure Medium Total										4E-10					4E-02
									Total of Receptor Risks for Exposure Scenario		5E-08			Total of Receptor Risks for Exposure Scenario		6E-02

Notes:
-- = not applicable.
EPC = exposure point concentration.
ft bgs = feet below ground surface.
mg/kg = milligrams per kilogram.
mg/kg-day = milligrams per kilogram per day.
$(mg/kg\text{-}day)^{-1}$ = inverse milligrams per kilogram per day.
mg/m^3 = milligrams per cubic meter.
$(mg/m^3)^{-1}$ = inverse milligrams per cubic meter.
NA = not available.
N/A = dermal exposure route not evaluated.

RAGS Part D Table 7.4
Calculation of Chemical Cancer Risks and Non-Cancer Hazards for a Current/Most Likely Future Construction / Utility Worker Exposure to Shallow Groundwater
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Scenario Timeframe:	Current/Most Likely Future
Receptor Population:	Construction / Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater	Shallow Groundwater	Former Launch Area	Ingestion	Benzene	5.1E+00	µg/L	6.2E-09	mg/kg-day	5.5E-02	$(mg/kg\text{-}day)^{-1}$	3E-10	4.4E-07	mg/kg-day	1.0E-02	mg/kg-day	4E-05
				Ethylbenzene	3.1E+00	µg/L	3.8E-09	mg/kg-day	1.1E-02	$(mg/kg\text{-}day)^{-1}$	4E-11	2.7E-07	mg/kg-day	5.0E-02	mg/kg-day	5E-06
				Trichloroethene	4.1E-01	µg/L	5.0E-10	mg/kg-day	4.6E-02	$(mg/kg\text{-}day)^{-1}$	2E-11	3.5E-08	mg/kg-day	5.0E-04	mg/kg-day	7E-05
				Benzo(a)anthracene	4.4E-02	µg/L	5.4E-11	mg/kg-day	1.0E-01	$(mg/kg\text{-}day)^{-1}$	5E-12	3.8E-09	mg/kg-day	NA	--	--
				Bis(2-ethylhexyl)phthalate	2.8E+01	µg/L	3.4E-08	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	5E-10	2.4E-06	mg/kg-day	2.0E-02	mg/kg-day	1E-04
				Naphthalene	3.3E-01	µg/L	4.0E-10	mg/kg-day	1.2E-01	$(mg/kg\text{-}day)^{-1}$	5E-11	2.8E-08	mg/kg-day	6.0E-01	mg/kg-day	5E-08
				Aluminum	3.6E+03	µg/L	4.5E-06	mg/kg-day	NA	--	--	3.1E-04	mg/kg-day	1.0E+00	mg/kg-day	3E-04
				Barium	1.3E+03	µg/L	1.6E-06	mg/kg-day	NA	--	--	1.1E-04	mg/kg-day	2.0E-01	mg/kg-day	5E-04
				Nickel	5.8E+01	µg/L	7.1E-08	mg/kg-day	NA	--	--	5.0E-06	mg/kg-day	2.0E-02	mg/kg-day	2E-04
				Thallium	1.3E+00	µg/L	1.6E-09	mg/kg-day	NA	--	--	1.1E-07	mg/kg-day	4.0E-05	mg/kg-day	3E-03
				Chromium, Hexavalent	3.3E+00	µg/L	4.0E-09	mg/kg-day	5.0E-01	$(mg/kg\text{-}day)^{-1}$	2E-09	2.8E-07	mg/kg-day	5.0E-03	mg/kg-day	6E-05
			Exp. Route Total								3E-09					4E-03
Groundwater	Shallow Groundwater	Former Launch Area	Dermal	Benzene	5.1E+00	µg/L	4.1E-08	mg/kg-day	5.5E-02	$(mg/kg\text{-}day)^{-1}$	2E-09	2.9E-06	mg/kg-day	1.0E-02	mg/kg-day	3E-04
				Ethylbenzene	3.1E+00	µg/L	8.8E-08	mg/kg-day	1.1E-02	$(mg/kg\text{-}day)^{-1}$	1E-09	6.1E-06	mg/kg-day	5.0E-02	mg/kg-day	1E-04
				Trichloroethene	4.1E-01	µg/L	3.2E-09	mg/kg-day	4.6E-02	$(mg/kg\text{-}day)^{-1}$	1E-10	2.2E-07	mg/kg-day	5.0E-04	mg/kg-day	4E-04
				Benzo(a)anthracene	4.4E-02	µg/L	2.9E-08	mg/kg-day	1.0E-01	$(mg/kg\text{-}day)^{-1}$	3E-09	2.0E-06	mg/kg-day	NA	--	--
				Bis(2-ethylhexyl)phthalate	2.8E+01	µg/L	1.1E-04	mg/kg-day	1.4E-02	$(mg/kg\text{-}day)^{-1}$	2E-06	7.5E-03	mg/kg-day	2.0E-02	mg/kg-day	4E-01
				Naphthalene	3.3E-01	µg/L	9.9E-09	mg/kg-day	1.2E-01	$(mg/kg\text{-}day)^{-1}$	1E-09	6.9E-07	mg/kg-day	6.0E-01	mg/kg-day	1E-06
				Aluminum	3.6E+03	µg/L	1.6E-06	mg/kg-day	NA	--	--	1.1E-04	mg/kg-day	1.0E+00	mg/kg-day	1E-04
				Barium	1.3E+03	µg/L	5.5E-07	mg/kg-day	NA	--	--	3.9E-05	mg/kg-day	1.4E-02	mg/kg-day	3E-03
				Nickel	5.8E+01	µg/L	5.0E-09	mg/kg-day	NA	--	--	3.5E-07	mg/kg-day	8.0E-04	mg/kg-day	4E-04
				Thallium	1.3E+00	µg/L	5.7E-10	mg/kg-day	NA	--	--	4.0E-08	mg/kg-day	4.0E-05	mg/kg-day	1E-03
				Chromium, Hexavalent	3.3E+00	µg/L	2.8E-09	mg/kg-day	2.0E+01	$(mg/kg\text{-}day)^{-1}$	6E-08	2.0E-07	mg/kg-day	1.3E-04	mg/kg-day	2E-03
			Exp. Route Total								2E-06					4E-01
Groundwater	Outdoor Air	Former Launch Area	Inhalation	Benzene	6.2E+01	µg/m³	1.0E-04	mg/m³	7.8E-03	$(mg/m^3)^{-1}$	8E-07	7.0E-03	mg/m³	8.0E-02	mg/m³	9E-02
				Ethylbenzene	3.2E+01	µg/m³	5.3E-05	mg/m³	2.5E-03	$(mg/m^3)^{-1}$	1E-07	3.7E-03	mg/m³	9.0E+00	mg/m³	4E-04
				Trichloroethene	3.8E+00	µg/m³	6.3E-06	mg/m³	4.1E-03	$(mg/m^3)^{-1}$	3E-08	4.4E-04	mg/m³	2.2E-03	mg/m³	2E-01
				Benzo(a)anthracene	2.3E-02	µg/m³	3.8E-08	mg/m³	6.0E-02	$(mg/m^3)^{-1}$	2E-09	2.7E-06	mg/m³	NA	--	--
				Naphthalene	2.6E+00	µg/m³	4.2E-06	mg/m³	3.4E-02	$(mg/m^3)^{-1}$	1E-07	2.9E-04	mg/m³	3.0E-03	mg/m³	1E-01
			Exp. Route Total								1E-06					4E-01
		Exposure Point Total									3E-06					8E-01
	Exposure Medium Total										3E-06					8E-01
									Total of Receptor Risks for Exposure Scenario		3E-06			Total of Receptor Risks for Exposure Scenario		8E-01

Notes:
-- = not applicable.
EPC = exposure point concentration.
µg/L = micrograms per liter.
µg/m³ = micrograms per cubic meter.
mg/kg-day = milligrams per kilogram per day.
$(mg/kg\text{-}day)^{-1}$ = inverse milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
$(mg/m^3)^{-1}$ = inverse milligrams per cubic meter.
NA = not available.

RAGS Part D Table 7.5
Calculation of Chemical Cancer Risks and Non-Cancer Hazards for a Hypothetical Future Commercial / Industrial Worker Exposure to Groundwater - Potable Use
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Scenario Timeframe:	Hypothetical Future
Receptor Population:	Commercial / Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater	Overburden and Bedrock Groundwater	Former Launch Area	Ingestion	2-Hexanone	4.0E+00	µg/L	1.5E-05	mg/kg-day	NA	--	--	4.3E-05	mg/kg-day	5.0E-03	mg/kg-day	9E-03
				Benzene	2.1E+02	µg/L	8.0E-04	mg/kg-day	5.5E-02	$(mg/kg-day)^{-1}$	4E-05	2.2E-03	mg/kg-day	4.0E-03	mg/kg-day	6E-01
				Chloroform	2.2E+00	µg/L	8.4E-06	mg/kg-day	3.1E-02	$(mg/kg-day)^{-1}$	3E-07	2.4E-05	mg/kg-day	1.0E-02	mg/kg-day	2E-03
				Ethylbenzene	1.1E+01	µg/L	4.2E-05	mg/kg-day	1.1E-02	$(mg/kg-day)^{-1}$	5E-07	1.2E-04	mg/kg-day	1.0E-01	mg/kg-day	1E-03
				o-Xylene	5.0E+01	µg/L	1.9E-04	mg/kg-day	NA	--	--	5.4E-04	mg/kg-day	2.0E-01	mg/kg-day	3E-03
				Trichloroethene	4.1E-01	µg/L	1.6E-06	mg/kg-day	4.6E-02	$(mg/kg-day)^{-1}$	7E-08	4.4E-06	mg/kg-day	5.0E-04	mg/kg-day	9E-03
				2-Methylnaphthalene	1.4E+01	µg/L	5.4E-05	mg/kg-day	NA	--	--	1.5E-04	mg/kg-day	4.0E-03	mg/kg-day	4E-02
				Benzo(a)anthracene	1.5E-01	µg/L	5.7E-07	mg/kg-day	1.0E-01	$(mg/kg-day)^{-1}$	6E-08	1.6E-06	mg/kg-day	NA	--	--
				Benzo(a)pyrene	8.2E-02	µg/L	3.1E-07	mg/kg-day	1.0E+00	$(mg/kg-day)^{-1}$	3E-07	8.8E-07	mg/kg-day	3.0E-04	mg/kg-day	3E-03
				Bis(2-ethylhexyl)phthalate	2.8E+01	µg/L	1.1E-04	mg/kg-day	1.4E-02	$(mg/kg-day)^{-1}$	1E-06	3.0E-04	mg/kg-day	2.0E-02	mg/kg-day	1E-02
				Naphthalene	4.3E+00	µg/L	1.6E-05	mg/kg-day	1.2E-01	$(mg/kg-day)^{-1}$	2E-06	4.6E-05	mg/kg-day	2.0E-02	mg/kg-day	2E-03
				Aluminum	6.3E+03	µg/L	2.4E-02	mg/kg-day	NA	--	--	6.7E-02	mg/kg-day	1.0E+00	mg/kg-day	7E-02
				Antimony	9.0E+00	µg/L	3.4E-05	mg/kg-day	NA	--	--	9.6E-05	mg/kg-day	4.0E-04	mg/kg-day	2E-01
				Barium	1.3E+03	µg/L	4.9E-03	mg/kg-day	NA	--	--	1.4E-02	mg/kg-day	2.0E-01	mg/kg-day	7E-02
				Nickel	5.8E+01	µg/L	2.2E-04	mg/kg-day	NA	--	--	6.2E-04	mg/kg-day	2.0E-02	mg/kg-day	3E-02
				Thallium	1.4E+00	µg/L	5.4E-06	mg/kg-day	NA	--	--	1.5E-05	mg/kg-day	1.0E-05	mg/kg-day	2E+00
				Vanadium	2.4E+01	µg/L	9.2E-05	mg/kg-day	NA	--	--	2.6E-04	mg/kg-day	5.0E-03	mg/kg-day	5E-02
				Chromium, Hexavalent	3.3E+00	µg/L	1.3E-05	mg/kg-day	5.0E-01	$(mg/kg-day)^{-1}$	6E-06	3.5E-05	mg/kg-day	3.0E-03	mg/kg-day	1E-02
			Exp. Route Total								6E-05					3E+00
Groundwater	Overburden and Bedrock Groundwater	Former Launch Area	Dermal	2-Hexanone	4.0E+00	µg/L	6.1E-08	mg/kg-day	NA	--	--	1.7E-07	mg/kg-day	5.0E-03	mg/kg-day	3E-05
				Benzene	2.1E+02	µg/L	1.2E-05	mg/kg-day	5.5E-02	$(mg/kg-day)^{-1}$	6E-07	3.3E-05	mg/kg-day	4.0E-03	mg/kg-day	8E-03
				Chloroform	2.2E+00	µg/L	7.3E-08	mg/kg-day	3.1E-02	$(mg/kg-day)^{-1}$	2E-09	2.1E-07	mg/kg-day	1.0E-02	mg/kg-day	2E-05
				Ethylbenzene	1.1E+01	µg/L	2.4E-06	mg/kg-day	1.1E-02	$(mg/kg-day)^{-1}$	3E-08	6.8E-06	mg/kg-day	1.0E-01	mg/kg-day	7E-05
				o-Xylene	5.0E+01	µg/L	1.1E-05	mg/kg-day	NA	--	--	3.0E-05	mg/kg-day	2.0E-01	mg/kg-day	1E-04
				Trichloroethene	4.1E-01	µg/L	2.5E-08	mg/kg-day	4.6E-02	$(mg/kg-day)^{-1}$	1E-09	7.0E-08	mg/kg-day	5.0E-04	mg/kg-day	1E-04
				2-Methylnaphthalene	1.4E+01	µg/L	7.3E-06	mg/kg-day	NA	--	--	2.0E-05	mg/kg-day	4.0E-03	mg/kg-day	5E-03
				Benzo(a)anthracene	1.5E-01	µg/L	8.2E-07	mg/kg-day	1.0E-01	$(mg/kg-day)^{-1}$	8E-08	2.3E-06	mg/kg-day	NA	--	--
				Benzo(a)pyrene	8.2E-02	µg/L	6.7E-07	mg/kg-day	1.0E+00	$(mg/kg-day)^{-1}$	7E-07	1.9E-06	mg/kg-day	3.0E-04	mg/kg-day	6E-03
				Bis(2-ethylhexyl)phthalate	2.8E+01	µg/L	8.9E-04	mg/kg-day	1.4E-02	$(mg/kg-day)^{-1}$	1E-05	2.5E-03	mg/kg-day	2.0E-02	mg/kg-day	1E-01
				Naphthalene	4.3E+00	µg/L	1.0E-06	mg/kg-day	1.2E-01	$(mg/kg-day)^{-1}$	1E-07	2.9E-06	mg/kg-day	2.0E-02	mg/kg-day	1E-04
				Aluminum	6.3E+03	µg/L	2.9E-06	mg/kg-day	NA	--	--	8.1E-06	mg/kg-day	1.0E+00	mg/kg-day	8E-06
				Antimony	9.0E+00	µg/L	4.1E-09	mg/kg-day	NA	--	--	1.2E-08	mg/kg-day	6.0E-05	mg/kg-day	2E-04
				Barium	1.3E+03	µg/L	5.9E-07	mg/kg-day	NA	--	--	1.7E-06	mg/kg-day	1.4E-02	mg/kg-day	1E-04
				Nickel	5.8E+01	µg/L	5.3E-09	mg/kg-day	NA	--	--	1.5E-08	mg/kg-day	8.0E-04	mg/kg-day	2E-05
				Thallium	1.4E+00	µg/L	6.5E-10	mg/kg-day	NA	--	--	1.8E-09	mg/kg-day	1.0E-05	mg/kg-day	2E-04
				Vanadium	2.4E+01	µg/L	1.1E-08	mg/kg-day	NA	--	--	3.1E-08	mg/kg-day	1.3E-04	mg/kg-day	2E-04
				Chromium, Hexavalent	3.3E+00	µg/L	3.0E-09	mg/kg-day	2.0E+01	$(mg/kg-day)^{-1}$	6E-08	8.5E-09	mg/kg-day	7.5E-05	mg/kg-day	1E-04
			Exp. Route Total								1E-05					1E-01

RAGS Part D Table 7.5
Calculation of Chemical Cancer Risks and Non-Cancer Hazards for a Hypothetical Future Commercial / Industrial Worker Exposure to Groundwater - Potable Use
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Scenario Timeframe:	Hypothetical Future
Receptor Population:	Commercial / Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater	Indoor Air	Former Launch Area	Inhalation	2-Hexanone	2.0E+00	µg/m³	3.4E-06	mg/m³	NA	--	--	9.5E-06	mg/m³	3.0E-02	mg/m³	3E-04
				Benzene	1.1E+02	µg/m³	1.8E-04	mg/m³	7.8E-03	$(mg/m^3)^{-1}$	1E-06	5.0E-04	mg/m³	3.0E-02	mg/m³	2E-02
				Chloroform	1.1E+00	µg/m³	1.9E-06	mg/m³	2.3E-02	$(mg/m^3)^{-1}$	4E-08	5.2E-06	mg/m³	9.8E-02	mg/m³	5E-05
				Ethylbenzene	5.5E+00	µg/m³	9.3E-06	mg/m³	2.5E-03	$(mg/m^3)^{-1}$	2E-08	2.6E-05	mg/m³	1.0E+00	mg/m³	3E-05
				o-Xylene	2.5E+01	µg/m³	4.2E-05	mg/m³	NA	--	--	1.2E-04	mg/m³	1.0E-01	mg/m³	1E-03
				Trichloroethene	2.1E-01	µg/m³	3.5E-07	mg/m³	4.1E-03	$(mg/m^3)^{-1}$	1E-09	9.8E-07	mg/m³	2.0E-03	mg/m³	5E-04
				2-Methylnaphthalene	7.0E+00	µg/m³	1.2E-05	mg/m³	NA	--	--	3.3E-05	mg/m³	NA	--	--
				Benzo(a)anthracene	7.5E-02	µg/m³	1.3E-07	mg/m³	6.0E-02	$(mg/m^3)^{-1}$	8E-09	3.6E-07	mg/m³	NA	--	--
				Naphthalene	2.2E+00	µg/m³	3.7E-06	mg/m³	3.4E-02	$(mg/m^3)^{-1}$	1E-07	1.0E-05	mg/m³	3.0E-03	mg/m³	3E-03
			Exp. Route Total								2E-06					2E-02
		Exposure Point Total									7E-05					3E+00
	Exposure Medium Total										7E-05					3E+00
									Total of Receptor Risks for Exposure Scenario		7E-05			Total of Receptor Risks for Exposure Scenario		3E+00

Notes:
-- = not applicable.
EPC = exposure point concentration.
µg/L = micrograms per liter.
µg/m³ = micrograms per cubic meter.
mg/kg-day = milligrams per kilogram per day.
$(mg/kg\text{-}day)^{-1}$ = inverse milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
$(mg/m^3)^{-1}$ = inverse milligrams per cubic meter.
NA = not available.

RAGS Part D Table 7.6
Calculation of Chemical Cancer Risks and Non-Cancer Hazards for a Hypothetical Future Off-site Nearby Resident Exposure to Groundwater - Potable Use
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Scenario Timeframe:	Hypothetical Future Off-site
Receptor Population:	Nearby Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater	Overburden and Bedrock Groundwater	Nearby Residence	Ingestion	2-Hexanone	4.0E+00	µg/L	5.1E-05	mg/kg-day	NA	--	--	2.0E-04	mg/kg-day	5.0E-03	mg/kg-day	4E-02
				Benzene	2.1E+02	µg/L	2.7E-03	mg/kg-day	5.5E-02	$(mg/kg-day)^{-1}$	1E-04	1.0E-02	mg/kg-day	4.0E-03	mg/kg-day	3E+00
				Chloroform	2.2E+00	µg/L	2.8E-05	mg/kg-day	3.1E-02	$(mg/kg-day)^{-1}$	9E-07	1.1E-04	mg/kg-day	1.0E-02	mg/kg-day	1E-02
				Ethylbenzene	1.1E+01	µg/L	1.4E-04	mg/kg-day	1.1E-02	$(mg/kg-day)^{-1}$	2E-06	5.5E-04	mg/kg-day	1.0E-01	mg/kg-day	5E-03
				o-Xylene	5.0E+01	µg/L	6.4E-04	mg/kg-day	NA	--	--	2.5E-03	mg/kg-day	2.0E-01	mg/kg-day	1E-02
				Trichloroethene	4.1E-01	µg/L	7.5E-06	mg/kg-day	4.6E-02	$(mg/kg-day)^{-1}$	3E-07	2.0E-05	mg/kg-day	5.0E-04	mg/kg-day	4E-02
				2-Methylnaphthalene	1.4E+01	µg/L	1.8E-04	mg/kg-day	NA	--	--	7.0E-04	mg/kg-day	4.0E-03	mg/kg-day	2E-01
				Benzo(a)anthracene	1.5E-01	µg/L	6.0E-06	mg/kg-day	1.0E-01	$(mg/kg-day)^{-1}$	6E-07	7.5E-06	mg/kg-day	NA	--	--
				Benzo(a)pyrene	8.2E-02	µg/L	3.3E-06	mg/kg-day	1.0E+00	$(mg/kg-day)^{-1}$	3E-06	4.1E-06	mg/kg-day	3.0E-04	mg/kg-day	1E-02
				Bis(2-ethylhexyl)phthalate	2.8E+01	µg/L	3.6E-04	mg/kg-day	1.4E-02	$(mg/kg-day)^{-1}$	5E-06	1.4E-03	mg/kg-day	2.0E-02	mg/kg-day	7E-02
				Naphthalene	4.3E+00	µg/L	5.5E-05	mg/kg-day	1.2E-01	$(mg/kg-day)^{-1}$	7E-06	2.1E-04	mg/kg-day	2.0E-02	mg/kg-day	1E-02
				Aluminum	6.3E+03	µg/L	8.0E-02	mg/kg-day	NA	--	--	3.1E-01	mg/kg-day	1.0E+00	mg/kg-day	3E-01
				Antimony	9.0E+00	µg/L	1.2E-04	mg/kg-day	NA	--	--	4.5E-04	mg/kg-day	4.0E-04	mg/kg-day	1E+00
				Barium	1.3E+03	µg/L	1.6E-02	mg/kg-day	NA	--	--	6.4E-02	mg/kg-day	2.0E-01	mg/kg-day	3E-01
				Nickel	5.8E+01	µg/L	7.4E-04	mg/kg-day	NA	--	--	2.9E-03	mg/kg-day	2.0E-02	mg/kg-day	1E-01
				Thallium	1.4E+00	µg/L	1.8E-05	mg/kg-day	NA	--	--	7.1E-05	mg/kg-day	1.0E-05	mg/kg-day	7E+00
				Vanadium	2.4E+01	µg/L	3.1E-04	mg/kg-day	NA	--	--	1.2E-03	mg/kg-day	5.0E-03	mg/kg-day	2E-01
				Chromium, Hexavalent	3.3E+00	µg/L	1.3E-04	mg/kg-day	5.0E-01	$(mg/kg-day)^{-1}$	7E-05	1.6E-04	mg/kg-day	3.0E-03	mg/kg-day	5E-02
			Exp. Route Total								2E-04					1E+01
Groundwater	Overburden and Bedrock Groundwater	Nearby Residence	Dermal	2-Hexanone	4.0E+00	µg/L	2.0E-06	mg/kg-day	NA	--	--	7.3E-06	mg/kg-day	5.0E-03	mg/kg-day	1E-03
				Benzene	2.1E+02	µg/L	3.9E-04	mg/kg-day	5.5E-02	$(mg/kg-day)^{-1}$	2E-05	1.4E-03	mg/kg-day	4.0E-03	mg/kg-day	3E-01
				Chloroform	2.2E+00	µg/L	2.4E-06	mg/kg-day	3.1E-02	$(mg/kg-day)^{-1}$	7E-08	8.7E-06	mg/kg-day	1.0E-02	mg/kg-day	9E-04
				Ethylbenzene	1.1E+01	µg/L	7.9E-05	mg/kg-day	1.1E-02	$(mg/kg-day)^{-1}$	9E-07	2.9E-04	mg/kg-day	1.0E-01	mg/kg-day	3E-03
				o-Xylene	5.0E+01	µg/L	3.4E-04	mg/kg-day	NA	--	--	1.3E-03	mg/kg-day	2.0E-01	mg/kg-day	6E-03
				Trichloroethene	4.1E-01	µg/L	1.2E-06	mg/kg-day	4.6E-02	$(mg/kg-day)^{-1}$	6E-08	3.0E-06	mg/kg-day	5.0E-04	mg/kg-day	6E-03
				2-Methylnaphthalene	1.4E+01	µg/L	2.4E-04	mg/kg-day	NA	--	--	8.6E-04	mg/kg-day	4.0E-03	mg/kg-day	2E-01
				Benzo(a)anthracene	1.5E-01	µg/L	8.5E-05	mg/kg-day	1.0E-01	$(mg/kg-day)^{-1}$	8E-06	9.7E-05	mg/kg-day	NA	--	--
				Benzo(a)pyrene	8.2E-02	µg/L	7.0E-05	mg/kg-day	1.0E+00	$(mg/kg-day)^{-1}$	7E-05	8.0E-05	mg/kg-day	3.0E-04	mg/kg-day	3E-01
				Bis(2-ethylhexyl)phthalate	2.8E+01	µg/L	2.9E-02	mg/kg-day	1.4E-02	$(mg/kg-day)^{-1}$	4E-04	1.1E-01	mg/kg-day	2.0E-02	mg/kg-day	5E+00
				Naphthalene	4.3E+00	µg/L	3.4E-05	mg/kg-day	1.2E-01	$(mg/kg-day)^{-1}$	4E-06	1.2E-04	mg/kg-day	2.0E-02	mg/kg-day	6E-03
				Aluminum	6.3E+03	µg/L	4.2E-04	mg/kg-day	NA	--	--	1.4E-03	mg/kg-day	1.0E+00	mg/kg-day	1E-03
				Antimony	9.0E+00	µg/L	6.0E-07	mg/kg-day	NA	--	--	2.0E-06	mg/kg-day	6.0E-05	mg/kg-day	3E-02
				Barium	1.3E+03	µg/L	8.5E-05	mg/kg-day	NA	--	--	2.8E-04	mg/kg-day	1.4E-02	mg/kg-day	2E-02
				Nickel	5.8E+01	µg/L	7.7E-07	mg/kg-day	NA	--	--	2.5E-06	mg/kg-day	8.0E-04	mg/kg-day	3E-03
				Thallium	1.4E+00	µg/L	9.5E-08	mg/kg-day	NA	--	--	3.1E-07	mg/kg-day	1.0E-05	mg/kg-day	3E-02
				Vanadium	2.4E+01	µg/L	1.6E-06	mg/kg-day	NA	--	--	5.3E-06	mg/kg-day	1.3E-04	mg/kg-day	4E-02
				Chromium, Hexavalent	3.3E+00	µg/L	1.4E-06	mg/kg-day	2.0E+01	$(mg/kg-day)^{-1}$	3E-05	1.5E-06	mg/kg-day	7.5E-05	mg/kg-day	2E-02
			Exp. Route Total								5E-04					6E+00

RAGS Part D Table 7.6
Calculation of Chemical Cancer Risks and Non-Cancer Hazards for a Hypothetical Future Off-site Nearby Resident Exposure to Groundwater - Potable Use
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Scenario Timeframe:	Hypothetical Future Off-site
Receptor Population:	Nearby Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake / Exposure Concentration		Cancer Slope Factor / Unit Risk		Cancer Risk	Intake / Exposure Concentration		Reference Dose / Reference Concentration		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Groundwater	Indoor Air	Nearby Residence	Inhalation	2-Hexanone	2.0E+00	µg/m³	7.1E-04	mg/m³	NA	--	--	1.9E-03	mg/m³	3.0E-02	mg/m³	6E-02
				Benzene	1.1E+02	µg/m³	3.7E-02	mg/m³	7.8E-03	$(mg/m^3)^{-1}$	3E-04	1.0E-01	mg/m³	3.0E-02	mg/m³	3E+00
				Chloroform	1.1E+00	µg/m³	3.9E-04	mg/m³	2.3E-02	$(mg/m^3)^{-1}$	9E-06	1.1E-03	mg/m³	9.8E-02	mg/m³	1E-02
				Ethylbenzene	5.5E+00	µg/m³	2.0E-03	mg/m³	2.5E-03	$(mg/m^3)^{-1}$	5E-06	5.3E-03	mg/m³	1.0E+00	mg/m³	5E-03
				o-Xylene	2.5E+01	µg/m³	8.9E-03	mg/m³	NA	--	--	2.4E-02	mg/m³	1.0E-01	mg/m³	2E-01
				Trichloroethene	2.1E-01	µg/m³	1.0E-04	mg/m³	4.1E-03	$(mg/m^3)^{-1}$	4E-07	2.0E-04	mg/m³	2.0E-03	mg/m³	1E-01
				2-Methylnaphthalene	7.0E+00	µg/m³	2.5E-03	mg/m³	NA	--	--	6.7E-03	mg/m³	NA	--	--
				Benzo(a)anthracene	7.5E-02	µg/m³	7.4E-05	mg/m³	6.0E-02	$(mg/m^3)^{-1}$	4E-06	7.2E-05	mg/m³	NA	--	--
				Naphthalene	2.2E+00	µg/m³	7.7E-04	mg/m³	3.4E-02	$(mg/m^3)^{-1}$	3E-05	2.1E-03	mg/m³	3.0E-03	mg/m³	7E-01
			Exp. Route Total								3E-04					4E+00
		Exposure Point Total									1E-03					2E+01
	Exposure Medium Total										1E-03					2E+01
										Total of Receptor Risks for Exposure Scenario	1E-03				Total of Receptor Risks for Exposure Scenario		2E+01

Notes:
-- = not applicable.
EPC = exposure point concentration.
µg/L = micrograms per liter.
µg/m³ = micrograms per cubic meter.
mg/kg-day = milligrams per kilogram per day.
$(mg/kg\text{-}day)^{-1}$ = inverse milligrams per kilogram per day.
mg/m³ = milligrams per cubic meter.
$(mg/m^3)^{-1}$ = inverse milligrams per cubic meter.
NA = not available.

RAGS Part D Table 9.1
Summary of Receptor Risks and Hazards for a Current/Most Likely Future Indoor Commercial / Industrial Worker Exposure to Surface Soil (0-1 ft bgs)
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Scenario Timeframe:	Current/Most Likely Future
Receptor Population:	Indoor Commercial / Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient					
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s) Oral/Dermal	Primary Target Organ(s) Inhalation	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Surface Soil (0-1 ft bgs)	Former Launch Area	Benzo(a)anthracene	4E-08	3E-09	N/A	4E-08	NA	NA	--	--	N/A	--
			Benzo(a)pyrene	4E-07	1E-10	N/A	4E-07	Developmental	Developmental	4E-03	2E-04	N/A	4E-03
			Benzo(b)fluoranthene	6E-08	1E-11	N/A	6E-08	NA	NA	--	--	N/A	--
			Dibenzo(a,h)anthracene	6E-08	1E-11	N/A	6E-08	NA	NA	--	--	N/A	--
			Indeno(1,2,3-cd)pyrene	3E-08	6E-12	N/A	3E-08	NA	NA	--	--	N/A	--
			Chromium VI	4E-08	4E-10	N/A	5E-08	None	Lungs	8E-05	1E-06	N/A	8E-05
			Manganese	--	--	N/A	--	Nervous System	Nervous System	2E-02	3E-03	N/A	2E-02
			Chemical Total	6E-07	3E-09	--	6E-07			2E-02	3E-03	--	2E-02
		Exposure Point Total					6E-07						2E-02
	Exposure Medium Total						6E-07						2E-02
Medium Total							6E-07						2E-02

RAGS Part D Table 9.2
Summary of Receptor Risks and Hazards for a Current/Most Likely Future Outdoor Maintenance Worker Exposure to Surface Soil (0-1 ft bgs)
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Scenario Timeframe:	Current/Most Likely Future
Receptor Population:	Outdoor Maintenance Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient					
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s) Oral/Dermal	Primary Target Organ(s) Inhalation	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Surface Soil (0-1 ft bgs)	Former Launch Area	Benzo(a)anthracene	7E-08	3E-09	4E-08	1E-07	NA	NA	--	--	--	--
			Benzo(a)pyrene	7E-07	9E-11	4E-07	1E-06	Developmental	Developmental	7E-03	2E-04	4E-03	1E-02
			Benzo(b)fluoranthene	1E-07	1E-11	5E-08	2E-07	NA	NA	--	--	--	--
			Dibenzo(a,h)anthracene	1E-07	1E-11	6E-08	2E-07	NA	NA	--	--	--	--
			Indeno(1,2,3-cd)pyrene	5E-08	5E-12	3E-08	7E-08	NA	NA	--	--	--	--
			Chromium VI	8E-08	4E-10	--	8E-08	None	Lungs	2E-04	9E-07	--	2E-04
			Manganese	--	--	--	--	Nervous System	Nervous System	3E-02	3E-03	--	3E-02
			Chemical Total	1E-06	3E-09	6E-07	2E-06			4E-02	3E-03	4E-03	4E-02
		Exposure Point Total					2E-06						4E-02
	Exposure Medium Total						2E-06						4E-02
Medium Total							2E-06						4E-02

RAGS Part D Table 9.3 and 9.4
Summary of Receptor Risks and Hazards for a Current/Most Likely Future Construction / Utility Worker Exposure to Surface and Subsurface Soil (0-10 ft bgs)
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Scenario Timeframe:	Current/Most Likely Future
Receptor Population:	Construction / Utility Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient					
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s) Oral/Dermal	Primary Target Organ(s) Inhalation	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Surface and Subsurface Soil (0-10 ft bgs)	Former Launch Area	Benzo(a)anthracene	2E-09	1E-10	9E-10	3E-09	NA	NA	--	--	--	--
			Benzo(a)pyrene	2E-08	3E-11	1E-08	3E-08	Developmental	Developmental	6E-03	2E-03	2E-03	1E-02
			Benzo(b)fluoranthene	3E-09	4E-12	1E-09	5E-09	NA	NA	--	--	--	--
			Dibenzo(a,h)anthracene	3E-09	3E-12	1E-09	4E-09	NA	NA	--	--	--	--
			Indeno(1,2,3-cd)pyrene	2E-09	2E-12	7E-10	3E-09	NA	NA	--	--	--	--
			Chromium VI	5E-09	2E-10	--	5E-09	Blood	Respiratory	1E-04	5E-06	--	1E-04
			Manganese	--	--	--	--	Nervous System	Nervous System	7E-03	4E-02	--	5E-02
			Chemical Total	4E-08	4E-10	1E-08	5E-08			1E-02	4E-02	2E-03	6E-02
		Exposure Point Total					5E-08						6E-02
	Exposure Medium Total						5E-08						6E-02
Medium Total							5E-08						6E-02
Groundwater	Shallow Groundwater	Former Launch Area	Benzene	3E-10	8E-07	2E-09	8E-07	Blood	Blood	4E-05	9E-02	3E-04	9E-02
			Ethylbenzene	4E-11	1E-07	1E-09	1E-07	Liver	Ear	5E-06	4E-04	1E-04	5E-04
			Trichloroethene	2E-11	3E-08	1E-10	3E-08	Developmental; Immunological	Development; Immunological	7E-05	2E-01	4E-04	2E-01
			Benzo(a)anthracene	5E-12	2E-09	3E-09	5E-09	NA	NA	--	--	--	--
			Bis(2-ethylhexyl)phthalate	5E-10	--	2E-06	2E-06	Developmental	Development	1E-04	--	4E-01	4E-01
			Naphthalene	5E-11	1E-07	1E-09	1E-07	Neurological	Nervous System; Respiratory System	5E-08	1E-01	1E-06	1E-01
			Aluminum	--	--	--	--	Neurological	Neurological	3E-04	--	1E-04	4E-04
			Barium	--	--	--	--	Renal	Fetus	5E-04	--	3E-03	3E-03
			Nickel	--	--	--	--	Whole body	Respiratory	2E-04	--	4E-04	7E-04
			Thallium	--	--	--	--	Skin	NA	3E-03	--	1E-03	4E-03
			Chromium, Hexavalent	2E-09	--	6E-08	6E-08	Blood	Respiratory	6E-05	--	2E-03	2E-03
			Chemical Total	3E-09	1E-06	2E-06	3E-06			4E-03	4E-01	4E-01	8E-01
		Exposure Point Total					3E-06						8E-01
	Exposure Medium Total						3E-06						8E-01
Medium Total							3E-06						8E-01
						Receptor Total	3E-06					Receptor Total	8E-01

RAGS Part D Table 9.1 and 9.5
Summary of Receptor Risks and Hazards for a Hypothetical Future Indoor Commercial / Industrial Worker Exposure to Surface Soil (0-1 ft bgs)
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Scenario Timeframe:	Hypothetical Future
Receptor Population:	Indoor Commercial / Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient					
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s) Oral/Dermal	Primary Target Organ(s) Inhalation	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Surface Soil (0-1 ft bgs)	Former Launch Area	Benzo(a)anthracene	4E-08	3E-09	N/A	4E-08	NA	NA	--	--	N/A	--
			Benzo(a)pyrene	4E-07	1E-10	N/A	4E-07	Developmental	Developmental	4E-03	2E-04	N/A	4E-03
			Benzo(b)fluoranthene	6E-08	1E-11	N/A	6E-08	NA	NA	--	--	N/A	--
			Dibenzo(a,h)anthracene	6E-08	1E-11	N/A	6E-08	NA	NA	--	--	N/A	--
			Indeno(1,2,3-cd)pyrene	3E-08	6E-12	N/A	3E-08	NA	NA	--	--	N/A	--
			Chromium VI	4E-08	4E-10	N/A	5E-08	None	Lungs	8E-05	1E-06	N/A	8E-05
			Manganese	--	--	N/A	--	Nervous System	Nervous System	2E-02	3E-03	N/A	2E-02
			Chemical Total	6E-07	3E-09	--	6E-07			2E-02	3E-03	--	2E-02
		Exposure Point Total					6E-07						2E-02
	Exposure Medium Total						6E-07						2E-02
Medium Total							6E-07						2E-02
Groundwater	Overburden and Bedrock Groundwater	Former Launch Area	2-Hexanone	--	--	--	--	Nervous System	Nervous system	9E-03	3E-04	3E-05	9E-03
			Benzene	4E-05	1E-06	6E-07	5E-05	Immune	Immune	6E-01	2E-02	8E-03	6E-01
			Chloroform	3E-07	4E-08	2E-09	3E-07	Liver	Kidney	2E-03	5E-05	2E-05	2E-03
			Ethylbenzene	5E-07	2E-08	3E-08	5E-07	Liver; Urinary	Developmental	1E-03	3E-05	7E-05	1E-03
			o-Xylene	--	--	--	--	Whole Body	Nervous System	3E-03	1E-03	1E-04	4E-03
			Trichloroethene	7E-08	1E-09	1E-09	7E-08	Developmental; Immune	Developmental; Immune	9E-03	5E-04	1E-04	9E-03
			2-Methylnaphthalene	--	--	--	--	Lungs	NA	4E-02	--	5E-03	4E-02
			Benzo(a)anthracene	6E-08	8E-09	8E-08	1E-07	NA	NA	--	--	--	--
			Benzo(a)pyrene	3E-07	--	7E-07	1E-06	Developmental	Developmental	3E-03	--	6E-03	9E-03
			Bis(2-ethylhexyl)phthalate	1E-06	--	1E-05	1E-05	Liver	NA	1E-02	--	1E-01	1E-01
			Naphthalene	2E-06	1E-07	1E-07	2E-06	Body Weight	Nervous System; Respiratory System	2E-03	3E-03	1E-04	6E-03
			Aluminum	--	--	--	--	Neurological	Neurological	7E-02	--	8E-06	7E-02
			Antimony	--	--	--	--	Hematologic; Other	Respiratory	2E-01	--	2E-04	2E-01
			Barium	--	--	--	--	Urinary	Reproduction	7E-02	--	1E-04	7E-02
			Nickel	--	--	--	--	Body Weight	Respiratory	3E-02	--	2E-05	3E-02
			Thallium	--	--	--	--	Skin	NA	2E+00	--	2E-04	2E+00
			Vanadium	--	--	--	--	Dermal	Respiratory	5E-02	--	2E-04	5E-02
			Chromium, Hexavalent	6E-06	--	6E-08	6E-06	None	Lungs	1E-02	--	1E-04	1E-02
			Chemical Total	6E-05	2E-06	1E-05	7E-05			3E+00	2E-02	1E-01	3E+00
		Exposure Point Total					7E-05						3E+00
	Exposure Medium Total						7E-05						3E+00
Medium Total							7E-05						3E+00
						Receptor Total	7E-05					Receptor Total	3E+00

RAGS Part D Table 9.6
Summary of Receptor Risks and Hazards for a Hypothetical Future Off-site Nearby Resident Exposure to Groundwater - Potable Use
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Scenario Timeframe:	Hypothetical Future Off-site
Receptor Population:	Nearby Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient					
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s) Oral/Dermal	Primary Target Organ(s) Inhalation	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Overburden and Bedrock Groundwater	Former Launch Area	2-Hexanone	--	--	--	--	Nervous System	Nervous system	4E-02	6E-02	1E-03	1E-01
			Benzene	1E-04	3E-04	2E-05	5E-04	Immune	Immune	3E+00	3E+00	3E-01	6E+00
			Chloroform	9E-07	9E-06	7E-08	1E-05	Liver	Kidney	1E-02	1E-02	9E-04	2E-02
			Ethylbenzene	2E-06	5E-06	9E-07	7E-06	Liver; Urinary	Developmental	5E-03	5E-03	3E-03	1E-02
			o-Xylene	--	--	--	--	Whole Body	Nervous System	1E-02	2E-01	6E-03	3E-01
			Trichloroethene	3E-07	4E-07	6E-08	8E-07	Developmental; Immune	Developmental; Immune	4E-02	1E-01	6E-03	1E-01
			2-Methylnaphthalene	--	--	--	--	Lungs	NA	2E-01	--	2E-01	4E-01
			Benzo(a)anthracene	6E-07	4E-06	8E-06	1E-05	NA	NA	--	--	--	--
			Benzo(a)pyrene	3E-06	--	7E-05	7E-05	Developmental	Developmental	1E-02	--	3E-01	3E-01
			Bis(2-ethylhexyl)phthalate	5E-06	--	4E-04	4E-04	Liver	NA	7E-02	--	5E+00	5E+00
			Naphthalene	7E-06	3E-05	4E-06	4E-05	Body Weight	Nervous System; Respiratory System	1E-02	7E-01	6E-03	7E-01
			Aluminum	--	--	--	--	Neurological	Neurological	3E-01	--	1E-03	3E-01
			Antimony	--	--	--	--	Hematologic; Other	Respiratory	1E+00	--	3E-02	1E+00
			Barium	--	--	--	--	Urinary	Reproduction	3E-01	--	2E-02	3E-01
			Nickel	--	--	--	--	Body Weight	Respiratory	1E-01	--	3E-03	1E-01
			Thallium	--	--	--	--	Skin	NA	7E+00	--	3E-02	7E+00
			Vanadium	--	--	--	--	Dermal	Respiratory	2E-01	--	4E-02	3E-01
			Chromium, Hexavalent	7E-05	--	3E-05	9E-05	None	Lungs	5E-02	--	2E-02	7E-02
			Chemical Total	2E-04	3E-04	5E-04	1E-03			1E+01	4E+00	6E+00	2E+01
		Exposure Point Total					1E-03						2E+01
	Exposure Medium Total						1E-03						2E+01
Medium Total							1E-03						2E+01

Total Body Weight HI Across All Media =	2.E-01
Total Dermal/Skin HI Across All Media =	7.E+00
Total Developmental/Reproduction HI Across All Media =	4.E-01
Total Hematologic HI Across All Media =	1.E+00
Total Immune HI Across All Media =	6.E+00
Total Kidney/Urinary HI Across All Media =	4.E-01
Total Liver HI Across All Media =	5.E+00
Total Lungs/Respiratory HI Across All Media =	1.E+00
Total Nervous System HI Across All Media =	1.E+00
Total Neurological HI Across All Media =	3.E-01
Total NOAEL HI Across All Media =	7.E-02
Total Other HI Across All Media =	1.E+00
Total Whole Body HI Across All Media =	2.E-02

RAGS Part D Table 10.1 and 10.5
Risk Summary for a Current/Hypothetical Future Indoor Commercial / Industrial Worker Exposure to Surface Soil (0-1 ft bgs) and Groundwater
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Scenario Timeframe:	Current/Hypothetical Future
Receptor Population:	Indoor Commercial / Industrial Worker
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient					
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s) Oral/Dermal	Primary Target Organ(s) Inhalation	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil	Surface Soil	Former Launch Area	Chemical Total				--						--
	Exposure Medium Total						--						--
Medium Total							--						--
Groundwater	Overburden and Bedrock	Former Launch Area	Thallium	--	--	--	--	Skin	NA	2E+00	--	2E-04	2E+00
			Chemical Total				--						2E+00
	Exposure Medium Total						--						2E+00
Medium Total							--						2E+00
			Receptor Total				--					Receptor Total	2E+00

RAGS Part D Table 10.6
Risk Summary for a Hypothetical Future Off-site Nearby Resident Exposure to Groundwater - Potable Use
Baseline Human Health Risk Assessment
Nike Antiaircraft Missile Battery BU-51/52
Town of Hamburg, Erie County, New York

Scenario Timeframe:	Hypothetical Future Off-site
Receptor Population:	Nearby Resident
Receptor Age:	Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient					
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s) Oral/Dermal	Primary Target Organ(s) Inhalation	Ingestion	Inhalation	Dermal	Exposure Routes Total
Groundwater	Overburden and Bedrock Groundwater	Former Launch Area	Benzene	1E-04	3E-04	2E-05	5E-04	Immune	Immune	3E+00	3E+00	3E-01	6E+00
			Bis(2-ethylhexyl)phthalate	5E-06	--	4E-04	4E-04	Liver	NA	7E-02	--	5E+00	5E+00
			Thallium	--	--	--	--	Skin	NA	7E+00	--	3E-02	7E+00
		Exposure Point Total					9E-04						2E+01
	Exposure Medium Total						9E-04						2E+01
Medium Total							9E-04						2E+01

Total Dermal/Skin HI Across All Media =	7.E+00
Total Immune HI Across All Media =	6.E+00
Total Liver HI Across All Media =	5.E+00

Appendix J

Background Data Evaluation: BTVs and Hypothesis Tests

Appendix J

Background Soil Data Evaluation

1. Introduction

This Background Soil Data Evaluation is an appendix to the Remedial Investigation (RI) Report prepared by the Seres-Arcadis 8(a) JV, LLC (JV) on behalf of the United States Army Corps of Engineers (USACE), and evaluates the background soil data for the Nike Anti-aircraft Missile Battery BU-51/52 (Nike Battery), located in Hamburg, Erie County, New York (Nike Battery). The background evaluation calculates site-specific background threshold values (BTVs) and compares site soil data to reference (background) soil data. This information is used in the RI Report to aid in the identification of constituents of potential concern (COPCs) and inform the remedial decision process.

The background evaluation is based on the results from the 2020 RI sampling, which included the collection of both on-site and reference soil samples. The background evaluation focuses on metals and polycyclic aromatic hydrocarbons (PAHs). The evaluation includes soil data from two intervals: 0-1 foot below ground surface (bgs), and 1-3 feet bgs.

2. Background Threshold Values

BTVs were derived using reference soil data from the 0-1 foot and 1-3 feet bgs (**Table J-1**). BTVs were developed for those constituents with a minimum of eight samples and five detections; the minimum requirement to define a sample population (USEPA 2015). BTVs are typically represented by Upper Tolerance Limits (UTLs) calculated from a background dataset. Tolerance limits provide an interval within which at least a certain proportion of the population lies, with a specified probability that the stated interval does indeed "contain" that proportion of the population (USEPA, 2006). For example, a 95/95 UTL indicates a value that contains 95% of the population with 95% confidence. If insufficient data are available to calculate UTLs, the BTV is approximated by the maximum detected concentration in the background dataset.

Prior to calculating BTVs, several exploratory data analysis steps were used to identify suspected outliers and determine goodness-of-fit (GOF) for each data set (**Table J-2**). Suspected outliers were identified using the 75th percentile plus either 1.5 times the Interquartile Range (IQR – 75th – 25th percentiles) or 3 times the IQR. Mild suspected outliers were identified by the 75th percentile plus 1.5 times the IQR, while more extreme suspected outliers were identified by the 75th percentile plus 3 times the IQR. Suspected outliers were not excluded from BTV calculations.

GOF testing was also used to determine if parametric or nonparametric statistical methods are most appropriate for calculating BTVs and conducting statistical tests for outliers. Consistent with the USEPA (2015), data were evaluated for fits to normal, lognormal, and gamma distributions at an alpha level (α) of 0.05 (95% significance level). Optimal statistical tests were applied depending on distribution and sample size (n) (e.g., normal and lognormal: Shapiro-Wilk Test for $n \leq 50$ or Lilliefors Test for $n > 50$; gamma: Kolmogorov-Smirnov Test) using USEPA's (2015) ProUCL 5.1.002 software.

The criteria for selecting the most reliable method of UTL calculation, in accordance with USEPA (2015), depends on sample size, degree of censoring, GOF results, and skewness (as determined by the standard deviation of the natural logarithm of the detections) (**Table J-3**). The UTL was selected from among five possible methods: normal UTL, lognormal UTL, gamma UTL, KM UTL, or nonparametric UTL. It is not uncommon for one of the parametric UTLs to exceed the maximum detected concentration in the background dataset. This is more likely when the dataset is small and/or the variance is high. For this BTV evaluation, if the UTL exceeded the maximum detected concentration, then the maximum was retained as BTV for conservatism.

The nonparametric UTL usually equates to the maximum detected concentration when the dataset size is less than or equal to 59. With dataset sizes less than 59 members, 95% coverage at 95% confidence cannot be achieved (USEPA 2009, page 17-19). Unified Guidance provides a table (USEPA 2009, Table 17-4) with the actual achieved coverage at 95% confidence based on the dataset size. The results of the BTV derivations for each soil depth horizon (i.e., 0-1 foot and 1-3 feet bgs) are shown in **Table J-4a** and **Table J-4b**.

For comparison purposes, **Table J-4a** and **Table J-4b** also present the 95th percentile and maximum concentration from the New York State Department of Environmental Conservation (NYSDEC) rural soil survey (NYSDEC 2005). Comparison of the results indicate that the site-specific BTVs are generally comparable to the NYSDEC regional background values.

3. Data Box Plots and Hypothesis Testing

The background soil data evaluation includes box plots (**Figure J-1** and **Figure J-2**) and two-sample hypothesis tests (**Table J-5**) to compare the site soil data to reference soil data. The analyses focuses on the metals and PAHs with maximum detected concentrations greater than the regional screening level (RSLs) and the BTVs, as identified in the RI Report.

The hypothesis testing and box plots indicate that for surficial soil (0-1 feet bgs) five PAHs (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene) and one metal (manganese) are statistically greater than background **(Table J-5**; **Figure J-1**). For subsurface soil (1-3 feet bgs) only two PAHs (benzo(a)pyrene, benzo(b)fluoranthene) and none of the metals are statistically greater than background **(Table J-5**; **Figure J-2**).

4. References

New York State Department of Environmental Protection (NYSDEC). 2005. Concentrations of Selected Analytes in Rural New York State Surface Soils: A Summary Report on the Statewide Rural Soil Survey.

U.S. Environmental Protection Agency (USEPA). 2006. Data Quality Assessment: Statistical Methods for Practitioners. United States Environmental Protection Agency, Office of Environmental Information, Washington, D.C. EPA QA/G-9S. EPA/240/B-06/003. Available online at http://www.epa.gov/quality1/qs-docs/g9s-final.pdf. February.

USEPA. 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance. Office of Resource Conservation and Recovery. EPA 530-R-09-007. March.

USEPA. 2015. ProUCL Version 5.1.002 Technical Guide. Office of Research and Development. EPA/600/R-07/041. October.

Appendix J, Part 1

Background Threshold Values

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Appendix J
Table J-1. Background Soils Data
Remedial Investigation
Nike BU 51/52
Hamburg, NY

Location ID			NHFLA-BH36		NHFLA-BH37		NHFLA-BH38		NHFLA-BH39			NHFLA-BH40		
Sample ID [1]			NHFLA-BH36-A-SEP2020	NHFLA-BH36-B-SEP2020	NHFLA-BH37-A-SEP2020	NHFLA-BH37-B-SEP2020	NHFLA-BH38-A-SEP2020	NHFLA-BH38-B-SEP2020	NHFLA-BH39-A-SEP2020	NHFLA-BH39-B-SEP2020	NHFLA-DUP9-SEP2020 (FD)	NHFLA-BH40-A-SEP2020	NHFLA-BH40-B-SEP2020	NHFLA-DUP8-SEP2020 (FD)
Sample Type [2]			N	N	N	N	N	N	N	N	FD	N	N	FD
Sample Date			9/15/2020	9/15/2020	9/16/2020	9/16/2020	9/16/2020	9/16/2020	9/16/2020	9/16/2020	9/16/2020	9/16/2020	9/16/2020	9/16/2020
Start Depth (ft bgs)			0	1	0	1	0	1	0	1	1	0	1	1
End Depth (ft bgs)			1	3	1	3	1	3	1	3	3	1	3	3
Constituent	**CASRN**	**Units**												
Semi-Volatile Organic Compounds (SVOCs)														
2-Methylnaphthalene	91-57-6	µg/kg	11.0 U	12.0 U	12.0 U	11.0 U	12.0 U	12.0 U	12.0 U	12.0 U	12.0 U	12.0 U	11.0 U	11.0 U
Acenaphthene	83-32-9	µg/kg	11.0 U	12.0 U	12.0 U	11.0 U	12.0 U	12.0 U	12.0 U	12.0 U	12.0 U	12.0 U	11.0 U	11.0 U
Acenaphthylene	208-96-8	µg/kg	11.0 U	12.0 U	12.0 U	11.0 U	12.0 U	12.0 U	12.0 U	12.0 U	12.0 U	12.0 U	11.0 U	11.0 U
Anthracene	120-12-7	µg/kg	11.0 U	12.0 U	12.0 U	11.0 U	12.0 U	12.0 U	**1.60 J**	12.0 U	12.0 U	12.0 U	11.0 U	11.0 U
Benzo(a)anthracene	56-55-3	µg/kg	**2.60 J**	**4.20 J**	**6.60 J**	11.0 U	**8.20 J**	**4.50 J**	**8.80 J**	12.0 U	**3.20 J**	**5.90 J**	11.0 U	11.0 U
Benzo(a)pyrene	50-32-8	µg/kg	11.0 U	**5.20 J**	**7.70 J**	11.0 U	**9.40 J**	12.0 U	**7.00 J**	12.0 U	12.0 U	**6.50 J**	11.0 U	11.0 U
Benzo(b)fluoranthene	205-99-2	µg/kg	**5.30 J**	**9.60 J**	**15.0 J**	11.0 U	**18.0 J**	**7.30 J**	**18.0 J**	12.0 U	**4.50 J**	**14.0 J**	11.0 U	11.0 U
Benzo(g,h,i)perylene	191-24-2	µg/kg	**3.10 J**	**4.90 J**	**6.50 J**	11.0 U	**7.40 J**	**3.80 J**	**8.00 J**	12.0 U	**2.80 J**	**6.90 J**	11.0 U	11.0 U
Benzo(k)fluoranthene	207-08-9	µg/kg	11.0 U	12.0 U	**5.60 J**	11.0 U	**6.10 J**	12.0 U	**7.00 J**	12.0 U	12.0 U	**6.10 J**	11.0 U	11.0 U
Chrysene	218-01-9	µg/kg	**4.00 J**	**6.00 J**	**11.0 J**	**4.80 J**	**16.0 J**	**9.20 J**	**17.0 J**	**4.10 J**	**6.60 J**	**16.0 J**	11.0 UJ	**2.40 J**
Dibenz(a,h)anthracene	53-70-3	µg/kg	11.0 U	12.0 U	12.0 U	11.0 U	12.0 U	12.0 U	12.0 U	12.0 U	12.0 U	12.0 U	11.0 U	11.0 U
Fluoranthene	206-44-0	µg/kg	**6.00 J**	**11.0 J**	**19.0 J**	11.0 U	**22.0 J**	**10.0 J**	**23.0**	12.0 U	**8.40 J**	**17.0 J**	11.0 U	11.0 U
Fluorene	86-73-7	µg/kg	11.0 U	12.0 U	12.0 U	11.0 U	12.0 U	12.0 U	12.0 U	12.0 U	12.0 U	12.0 U	11.0 U	11.0 U
Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	**3.20 J**	**4.70 J**	**5.60 J**	11.0 U	**5.60 J**	**2.50 J**	**6.30 J**	12.0 U	12.0 U	**4.80 J**	11.0 U	11.0 U
Naphthalene	91-20-3	µg/kg	11.0 U	12.0 U	12.0 U	11.0 U	12.0 U	12.0 U	12.0 U	12.0 U	12.0 U	12.0 U	11.0 U	11.0 U
Phenanthrene	85-01-8	µg/kg	**3.70 J**	**6.10 J**	**9.10 J**	**2.70 J**	**11.0 J**	**8.00 J**	**13.0 J**	12.0 U	**6.80 J**	**9.20 J**	11.0 U	11.0 U
Pyrene	129-00-0	µg/kg	**4.60 J**	**8.30 J**	**17.0 J**	11.0 U	**20.0 J**	**9.80 J**	**22.0 J**	12.0 U	**7.80 J**	**18.0 J**	11.0 U	11.0 U
Inorganics														
Aluminum	7429-90-5	mg/kg	**12200**	**16400**	**15100**	**13000**	**14800**	**14200**	**18500**	**16500**	**17000**	**13600**	**13000**	**13600**
Antimony	7440-36-0	mg/kg	1.10 U	**0.210 J**	0.610 U	1.00 U	1.10 U	1.10 U	1.10 UJ	1.20 U	1.10 U	1.10 U	1.00 U	1.10 U
Arsenic	7440-38-2	mg/kg	**7.29**	**7.19**	**8.95**	**12.0**	**13.8**	**14.8**	**21.3 J**	**18.5**	**17.3**	**11.2**	**5.77**	**5.50**
Barium	7440-39-3	mg/kg	**69.0**	**104**	**78.3**	**70.3**	**66.8**	**74.3**	**72.7 J**	**110**	**105**	**98.5**	**67.5**	**72.2**
Beryllium	7440-41-7	mg/kg	**0.616 J**	**0.781**	**0.596 J**	**0.609 J**	**0.626 J**	**0.779 J**	**0.730 J**	**0.989 J**	**0.968**	**0.713 J**	**0.609 J**	**0.617 J**
Cadmium	7440-43-9	mg/kg	**0.345 J**	**0.615**	**0.728**	**0.489 J**	**0.751 J**	**1.66**	**1.10**	**3.07**	**2.80**	**1.16**	**0.221 J**	**0.268 J**
Calcium	7440-70-2	mg/kg	**77900**	**6360**	**3900**	**28400**	**1290**	**12400**	**1150**	**3400**	**4150**	**5740**	**80600**	**87400**
Chromium	7440-47-3	mg/kg	**17.1**	**19.0**	**16.9**	**16.7**	**16.4**	**16.6**	**19.8 J**	**21.1**	**23.0**	**16.5**	**18.4**	**19.5**
Chromium, Hexavalent	18540-29-9	mg/kg	0.360 U	0.730 U	0.790 U	0.330 U	**R**	0.350 U	0.350 U	0.370 U	0.360 U	**0.250 J**	**0.320 J**	0.320 U
Cobalt	7440-48-4	mg/kg	**7.97**	**7.79**	**6.91**	**8.86**	**11.4**	**17.0**	**14.0 J**	**20.6**	**20.8**	**10.3**	**9.83**	**9.80**
Copper	7440-50-8	mg/kg	**23.8**	**16.3**	**15.5**	**32.0**	**29.2**	**38.0**	**36.9 J**	**52.1**	**52.3**	**24.9**	**30.0**	**28.8**
Iron	7439-89-6	mg/kg	**21300**	**22700**	**22900**	**25200**	**32800**	**38700**	**47600**	**54300**	**54100**	**36500**	**21600**	**21400**
Lead	7439-92-1	mg/kg	**11.5**	**23.2**	**24.9**	**13.3**	**37.9**	**24.6**	**35.6 J**	**35.3**	**28.3**	**27.7**	**9.38**	**9.80**
Magnesium	7439-95-4	mg/kg	**8980**	**2640**	**2220**	**6100**	**1780**	**3340**	**2130 J**	**3310**	**3540**	**2200**	**10400**	**11300**
Manganese	7439-96-5	mg/kg	**316**	**286**	**225**	**278**	**201**	**611**	**351**	**2380**	**3200**	**586**	**370**	**376**
Mercury	7439-97-6	mg/kg	**0.0350 J**	**0.124**	**0.0750**	**0.0614**	**0.0560**	**0.0865**	**0.0756**	**0.125 J**	**0.141 J**	**0.0935**	**0.0170 J**	**0.0180 J**
Nickel	7440-02-0	mg/kg	**30.1**	**23.3**	**22.6**	**36.8**	**36.0**	**56.2**	**44.8 J**	**78.2**	**75.8**	**33.4**	**30.9**	**30.8**
Potassium	7440-09-7	mg/kg	**2060**	**1730**	**1250**	**1310**	**1230**	**1410**	**1300 J**	**1590**	**1790**	**1180**	**2670**	**2860**
Selenium	7782-49-2	mg/kg	**0.870 J**	**1.40**	**1.30**	**1.20 J**	**1.50 J**	**1.20 J**	**2.20**	**2.80**	**1.90 J**	**1.80 J**	**0.740 J**	1.50 U
Silver	7440-22-4	mg/kg	0.900 U	**0.110 J**	**0.336 J**	0.810 U	0.910 U	0.860 U	**0.649 J**	0.980 U	0.900 U	**0.0590 J**	**0.100 J**	0.860 U
Sodium	7440-23-5	mg/kg	**112 J**	**49.1 J**	61.0 U	100 U	110 U	110 U	110 U	120 U	56.0 U	110 U	210 U	210 U
Thallium	7440-28-0	mg/kg	1.10 U	0.600 U	**0.140 J**	**0.260 J**	1.10 U	**0.440 J**	1.10 U	1.20 U	2.80 U	1.10 U	1.00 U	1.10 U
Vanadium	7440-62-2	mg/kg	**26.6**	**41.1**	**37.8**	**30.7**	**36.6**	**31.3**	**42.7 J**	**31.7**	**35.1**	**33.2**	**24.9**	**26.3**
Zinc	7440-66-6	mg/kg	**81.7**	**114**	**113**	**128**	**158**	**276**	**214 J**	**369**	**362**	**168**	**71.4**	**68.8**

See Notes on Page 5.

Appendix J
Table J-1. Background Soils Data
Remedial Investigation
Nike BU 51/52
Hamburg, NY

Location ID			NHFLA-BH41		NHFLA-BH42		NHFLA-BH43		NHFLA-BH44		NHFLA-BH45	
Sample ID [1]			NHFLA-BH41-A-SEP2020	NHFLA-BH41-B-SEP2020	NHFLA-BH42-A-SEP2020	NHFLA-BH42-B-SEP2020	NHFLA-BH43-A-SEP2020	NHFLA-BH43-B-SEP2020	NHFLA-BH44-A-SEP2020	NHFLA-BH44-B-SEP2020	NHFLA-BH45-A-SEP2020	NHFLA-BH45-B-SEP2020
Sample Type [2]			N	N	N	N	N	N	N	N	N	N
Sample Date			9/15/2020	9/15/2020	9/15/2020	9/15/2020	9/15/2020	9/15/2020	9/9/2020	9/9/2020	9/9/2020	9/9/2020
Start Depth (ft bgs)			0	1	0	1	0	1	0	1	0	1
End Depth (ft bgs)			1	3	1	3	1	3	1	3	1	3
Constituent	**CASRN**	**Units**										
Semi-Volatile Organic Compounds (SVOCs)												
2-Methylnaphthalene	91-57-6	µg/kg	13.0 U	11.0 U	14.0 U	12.0 U	13.0 U	12.0 U	11.0 U	11.0 U	12.0 U	11.0 U
Acenaphthene	83-32-9	µg/kg	13.0 U	11.0 U	14.0 U	12.0 U	13.0 U	12.0 U	11.0 U	**5.20 J**	12.0 U	11.0 U
Acenaphthylene	208-96-8	µg/kg	13.0 U	11.0 U	14.0 U	12.0 U	13.0 U	12.0 U	11.0 U	**2.20 J**	12.0 U	11.0 U
Anthracene	120-12-7	µg/kg	13.0 U	11.0 U	14.0 U	12.0 U	13.0 U	12.0 U	11.0 U	**9.60 J**	12.0 U	11.0 U
Benzo(a)anthracene	56-55-3	µg/kg	**7.20 J**	11.0 U	**9.30 J**	12.0 U	**6.60 J**	**2.30 J**	**2.30 J**	**74.0**	12.0 U	11.0 U
Benzo(a)pyrene	50-32-8	µg/kg	**9.10 J**	11.0 U	**12.0 J**	12.0 U	**8.40 J**	12.0 U	**7.30 J**	**88.0**	**5.90 J**	**7.30 J**
Benzo(b)fluoranthene	205-99-2	µg/kg	**16.0 J**	11.0 U	**22.0 J**	12.0 U	**17.0 J**	**5.80 J**	11.0 U	**100**	12.0 U	11.0 U
Benzo(g,h,i)perylene	191-24-2	µg/kg	**8.00 J**	11.0 U	**8.10 J**	12.0 U	**7.20 J**	12.0 U	11.0 U	**55.0**	12.0 U	11.0 U
Benzo(k)fluoranthene	207-08-9	µg/kg	**5.10 J**	11.0 U	**6.70 J**	12.0 U	**5.40 J**	12.0 U	11.0 U	**56.0**	12.0 U	11.0 U
Chrysene	218-01-9	µg/kg	**10.0 J**	**3.50 J**	**13.0 J**	**7.90 J**	**11.0 J**	**5.50 J**	**23.0**	**94.0**	12.0 U	**6.60 J**
Dibenz(a,h)anthracene	53-70-3	µg/kg	13.0 U	11.0 U	14.0 U	12.0 U	13.0 U	12.0 U	**2.70 J**	**20.0 J**	**3.00 J**	**4.40 J**
Fluoranthene	206-44-0	µg/kg	**18.0 J**	11.0 U	**25.0 J**	12.0 U	**19.0 J**	**7.00 J**	11.0 U	**150**	12.0 U	11.0 U
Fluorene	86-73-7	µg/kg	13.0 U	11.0 U	14.0 U	12.0 U	13.0 U	12.0 U	11.0 U	**6.20 J**	12.0 U	11.0 U
Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	**9.20 J**	11.0 U	**7.60 J**	12.0 U	**6.60 J**	12.0 U	22.0 U	**67.0**	24.0 U	23.0 U
Naphthalene	91-20-3	µg/kg	13.0 U	11.0 U	14.0 U	12.0 U	13.0 U	12.0 U	11.0 U	11.0 U	12.0 U	11.0 U
Phenanthrene	85-01-8	µg/kg	**9.60 J**	11.0 U	**13.0 J**	**2.90 J**	**10.0 J**	**4.50 J**	11.0 U	**70.0**	12.0 U	11.0 U
Pyrene	129-00-0	µg/kg	**13.0 J**	11.0 U	**19.0 J**	12.0 U	**14.0 J**	**4.60 J**	11.0 U	**150**	12.0 U	11.0 U
Inorganics												
Aluminum	7429-90-5	mg/kg	**18200**	**10000**	**19400**	**12800**	**16600**	**14300**	**16200**	**17800**	**18100**	**8750**
Antimony	7440-36-0	mg/kg	0.630 U	0.880 U	**0.0840 J**	**0.580 J**	**0.220 J**	0.610 U	**0.500 J**	**0.970 J**	**0.710 J**	0.510 U
Arsenic	7440-38-2	mg/kg	**9.31**	**9.87**	**9.63**	**15.7**	**11.2**	**11.6**	**10.0**	**19.3**	**14.6**	**10.3**
Barium	7440-39-3	mg/kg	**115**	**68.2**	**111**	**85.4**	**112**	**101**	**84.2**	**98.6**	**98.2**	**34.4**
Beryllium	7440-41-7	mg/kg	**0.835**	**0.629 J**	**0.789**	**0.892 J**	**0.862**	**0.831**	**0.669**	**0.724 J**	**1.01 J**	**0.565**
Cadmium	7440-43-9	mg/kg	**0.455 J**	**0.294 J**	**0.447 J**	**0.894 J**	**0.577 J**	**0.525 J**	**0.587 J**	**0.216 J**	**0.791 J**	**0.294 J**
Calcium	7440-70-2	mg/kg	**3610**	**49300**	**1770**	**2900**	**4220**	**11300**	**6360**	**2630**	**2590**	**934**
Chromium	7440-47-3	mg/kg	**20.7**	**13.7**	**21.3**	**19.0**	**20.0**	**17.8**	**21.4**	**19.0**	**20.6**	**11.6**
Chromium, Hexavalent	18540-29-9	mg/kg	0.780 U	0.330 U	0.410 UJ	**0.420 J**	0.400 U	0.370 U	0.370 U	**0.180 J**	0.390 U	0.340 U
Cobalt	7440-48-4	mg/kg	**6.50**	**7.98**	**7.60**	**13.0**	**9.29**	**9.91**	**7.00**	**7.43**	**9.29**	**8.47**
Copper	7440-50-8	mg/kg	**14.1**	**28.4**	**10.7**	**46.5**	**18.6**	**24.4**	**21.7**	**16.1**	**21.4**	**20.9**
Iron	7439-89-6	mg/kg	**24100**	**21900**	**26300**	**33600**	**27400**	**28300**	**21700**	**35500**	**27600**	**18200**
Lead	7439-92-1	mg/kg	**24.6**	**12.1**	**31.3**	**20.3**	**22.2**	**19.1**	**26.8**	**20.1**	**27.9**	**12.6**
Magnesium	7439-95-4	mg/kg	**2660**	**5060**	**2270**	**3650**	**2800**	**3980**	**3130**	**2200**	**2930**	**2000**
Manganese	7439-96-5	mg/kg	**225**	**300**	**227**	**354**	**507**	**388**	**272**	**103**	**360**	**228**
Mercury	7439-97-6	mg/kg	**0.0986**	**0.0360**	**0.0943**	**0.0420**	**0.112**	**0.0729**	**0.152**	**0.0518**	**0.0724**	**0.0250 J**
Nickel	7440-02-0	mg/kg	**25.6**	**37.8**	**25.4**	**57.2**	**30.3**	**35.8**	**23.6**	**28.3**	**32.1**	**25.8**
Potassium	7440-09-7	mg/kg	**1730**	**1200**	**1640**	**1130**	**1810**	**1320**	**1560**	**1580**	**2060**	**1650**
Selenium	7782-49-2	mg/kg	**1.60**	**0.680 J**	**1.70**	**2.00**	**1.90**	**1.30**	**1.50**	**3.50**	**1.90 J**	**1.20**
Silver	7440-22-4	mg/kg	**0.120 J**	0.700 U	**0.210 J**	0.740 U	**0.260 J**	**0.150 J**	**1.11 J**	**0.902 J**	**0.930 J**	**0.140 J**
Sodium	7440-23-5	mg/kg	**67.2 J**	**111 J**	**53.1 J**	**60.8 J**	**61.2 J**	**68.5 J**	120 U	100 U	110 U	100 U
Thallium	7440-28-0	mg/kg	0.630 U	**0.420 J**	0.570 U	**0.280 J**	0.660 U	0.610 U	**0.820 J**	**1.10 J**	**0.760 J**	**0.260 J**
Vanadium	7440-62-2	mg/kg	**46.9**	**24.6**	**47.2**	**32.3**	**44.2**	**35.8**	**34.9**	**45.6**	**43.9**	**23.7**
Zinc	7440-66-6	mg/kg	**109**	**73.5**	**155**	**183**	**112**	**100**	**126**	**152**	**193**	**95.7**

See Notes on Page 5.

Appendix J
Table J-1. Background Soils Data
Remedial Investigation
Nike BU 51/52
Hamburg, NY

Location ID			NHFLA-BH46			NHFLA-BH47		NHFLA-BH48		NHFLA-BH49	
Sample ID [1]			NHFLA-BH46-A-SEP2020	NHFLA-DUP6-SEP2020 (FD)	NHFLA-BH46-B-SEP2020	NHFLA-BH47-A-SEP2020	NHFLA-BH47-B-SEP2020	NHFLA-BH48-A-SEP2020	NHFLA-BH48-B-SEP2020	NHFLA-BH49-A-SEP2020	NHFLA-BH49-B-SEP2020
Sample Type [2]			N	FD	N	N	N	N	N	N	N
Sample Date			9/10/2020	9/10/2020	9/10/2020	9/15/2020	9/15/2020	9/15/2020	9/15/2020	9/9/2020	9/9/2020
Start Depth (ft bgs)			0	0	1	0	1	0	1	0	1
End Depth (ft bgs)			1	1	3	1	3	1	3	1	3
Constituent	**CASRN**	**Units**									
Semi-Volatile Organic Compounds (SVOCs)											
2-Methylnaphthalene	91-57-6	µg/kg	12.0 U	13.0 U	11.0 U	12.0 U	11.0 U	12.0 U	11.0 U	13.0 U	10.0 U
Acenaphthene	83-32-9	µg/kg	12.0 U	13.0 U	11.0 U	**11.0 J**	11.0 U	12.0 U	11.0 U	13.0 U	10.0 U
Acenaphthylene	208-96-8	µg/kg	12.0 U	13.0 U	11.0 U	12.0 U	11.0 U	12.0 U	11.0 U	13.0 U	10.0 U
Anthracene	120-12-7	µg/kg	12.0 U	13.0 U	11.0 U	**17.0 J**	11.0 U	**2.00 J**	11.0 U	13.0 U	**1.40 J**
Benzo(a)anthracene	56-55-3	µg/kg	**7.60 J**	**9.80 J**	11.0 U	**56.0**	11.0 U	**16.0 J**	11.0 U	13.0 U	**7.60 J**
Benzo(a)pyrene	50-32-8	µg/kg	**10.0 J**	**13.0 J**	11.0 U	**43.0**	11.0 U	**18.0 J**	11.0 U	**13.0 J**	**14.0 J**
Benzo(b)fluoranthene	205-99-2	µg/kg	**23.0 J**	**26.0**	11.0 U	**77.0**	**3.30 J**	**34.0**	11.0 U	**12.0 J**	**14.0 J**
Benzo(g,h,i)perylene	191-24-2	µg/kg	**11.0 J**	**12.0 J**	11.0 U	**24.0 J**	**3.60 J**	**12.0 J**	11.0 U	27.0 U	21.0 U
Benzo(k)fluoranthene	207-08-9	µg/kg	**6.30 J**	**7.00 J**	11.0 U	**24.0 J**	11.0 U	**9.20 J**	11.0 U	**9.20 J**	**12.0 J**
Chrysene	218-01-9	µg/kg	**12.0 J**	**19.0 J**	**2.10 J**	**54.0**	**5.00 J**	**23.0 J**	**7.80 J**	**11.0 J**	**10.0 J**
Dibenz(a,h)anthracene	53-70-3	µg/kg	**2.40 J**	**2.40 J**	11.0 U	**7.90 J**	11.0 U	**2.70 J**	11.0 U	13.0 U	**4.50 J**
Fluoranthene	206-44-0	µg/kg	**18.0 J**	**24.0 J**	11.0 U	**160**	**2.10 J**	**44.0**	11.0 U	**7.80 J**	**9.40 J**
Fluorene	86-73-7	µg/kg	12.0 U	13.0 U	11.0 U	**10.0 J**	11.0 U	12.0 U	11.0 U	13.0 U	10.0 U
Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	**9.20 J**	**9.80 J**	11.0 U	**26.0**	**2.30 J**	**11.0 J**	11.0 U	27.0 U	21.0 U
Naphthalene	91-20-3	µg/kg	12.0 U	13.0 U	11.0 U	12.0 U	11.0 U	12.0 U	11.0 U	13.0 U	10.0 U
Phenanthrene	85-01-8	µg/kg	**7.50 J**	**8.90 J**	11.0 U	**130**	**2.10 J**	**22.0 J**	**7.00 J**	13.0 U	10.0 U
Pyrene	129-00-0	µg/kg	**15.0 J**	**20.0 J**	11.0 U	**100**	11.0 U	**30.0**	11.0 U	**11.0 J**	**13.0 J**
Inorganics											
Aluminum	7429-90-5	mg/kg	**18200**	**15900**	**14600**	**18100**	**14400**	**12900**	**8620**	**20700**	**14000**
Antimony	7440-36-0	mg/kg	**R**	**R**	1.00 U	0.620 U	**0.590 J**	**0.140 J**	0.540 U	**0.960 J**	**1.20 J**
Arsenic	7440-38-2	mg/kg	**11.4**	**18.0**	**6.40**	**16.4**	**17.6**	**14.9**	**10.8**	**21.1**	**15.7**
Barium	7440-39-3	mg/kg	**111**	**100**	**72.8**	**122**	**105**	**64.0**	**50.3**	**114**	**62.0**
Beryllium	7440-41-7	mg/kg	**0.929**	**1.01**	**0.712**	**0.910**	**0.833 J**	**0.683**	**0.528 J**	**1.88**	**0.758 J**
Cadmium	7440-43-9	mg/kg	**0.668**	**1.02 J**	**0.110 J**	**0.956**	**1.60**	**0.427 J**	**0.865**	**0.716 J**	**0.455 J**
Calcium	7440-70-2	mg/kg	**3380**	**3480**	**49900**	**2870**	**3130**	**1170**	**25900**	**2150**	**1300**
Chromium	7440-47-3	mg/kg	**21.8**	**20.4**	**20.5**	**22.6**	**18.6**	**17.0**	**13.1**	**24.8**	**18.2**
Chromium, Hexavalent	18540-29-9	mg/kg	**R**	**0.720 J**	**0.250 J**	0.370 U	0.330 U	0.380 U	**0.230 J**	0.390 U	0.370 U
Cobalt	7440-48-4	mg/kg	**9.56 J**	**20.2 J**	**9.42**	**9.92**	**14.6**	**17.5**	**13.0**	**15.9**	**13.4**
Copper	7440-50-8	mg/kg	**26.3 J**	**31.7 J**	**27.1**	**23.2**	**43.0**	**32.8**	**37.7**	**18.2**	**35.6**
Iron	7439-89-6	mg/kg	**28200**	**35700**	**26300**	**32900**	**33800**	**28300**	**22900**	**45600**	**35500**
Lead	7439-92-1	mg/kg	**20.5 J**	**31.7 J**	**11.8**	**28.6**	**17.2**	**24.4**	**14.1**	**38.1**	**23.0**
Magnesium	7439-95-4	mg/kg	**3040**	**2790**	**9080**	**2930**	**3410**	**2640**	**3540**	**2340**	**2930**
Manganese	7439-96-5	mg/kg	**327 J**	**896 J**	**379**	**419**	**460**	**773**	**276**	**650**	**563**
Mercury	7439-97-6	mg/kg	**0.0872**	**0.0836**	**0.0330 J**	**0.102**	**0.0470**	**0.0707**	**0.0380**	**0.106**	**0.0550**
Nickel	7440-02-0	mg/kg	**39.1 J**	**43.3 J**	**36.5**	**34.7**	**76.8**	**38.2**	**53.8**	**30.0**	**47.1**
Potassium	7440-09-7	mg/kg	**2140**	**1960**	**2160**	**2120**	**1990**	**1690**	**1760**	**1820**	**1820**
Selenium	7782-49-2	mg/kg	**2.00**	**2.10 J**	**0.790 J**	**2.00**	**2.20 J**	**1.90**	**0.800 J**	**2.20 J**	**1.90**
Silver	7440-22-4	mg/kg	**0.517 J**	**0.360 J**	0.810 U	**0.180 J**	0.920 U	**0.170 J**	**0.110 J**	**0.962 J**	**0.807 J**
Sodium	7440-23-5	mg/kg	120 U	130 U	**130**	**81.7 J**	**109 J**	**60.7 J**	**89.6 J**	130 U	93.0 U
Thallium	7440-28-0	mg/kg	**1.32 J**	**0.460 J**	1.00 U	0.620 U	**1.20 J**	0.600 U	**0.790 J**	**0.850 J**	**0.940 J**
Vanadium	7440-62-2	mg/kg	**45.0**	**45.4**	**26.4**	**49.3**	**38.7**	**38.2**	**22.5**	**64.6**	**38.8**
Zinc	7440-66-6	mg/kg	**160 J**	**156 J**	**65.8**	**177**	**251**	**112**	**110**	**207**	**150**

See Notes on Page 5.

Appendix J
Table J-1. Background Soils Data
Remedial Investigation
Nike BU 51/52
Hamburg, NY

Location ID			NHFLA-BH50		NHFLA-BH51	
Sample ID [1]			NHFLA-BH50-A-SEP2020	NHFLA-BH50-B-SEP2020	NHFLA-BH51-A-SEP2020	NHFLA-BH51-B-SEP2020
Sample Type [2]			N	N	N	N
Sample Date			9/15/2020	9/15/2020	9/9/2020	9/9/2020
Start Depth (ft bgs)			0	1	0	1
End Depth (ft bgs)			1	3	1	3
Constituent	CASRN	Units				
Semi-Volatile Organic Compounds (SVOCs)						
2-Methylnaphthalene	91-57-6	µg/kg	13.0 U	12.0 U	12.0 U	12.0 U
Acenaphthene	83-32-9	µg/kg	13.0 U	12.0 U	12.0 U	12.0 U
Acenaphthylene	208-96-8	µg/kg	13.0 U	12.0 U	12.0 U	12.0 U
Anthracene	120-12-7	µg/kg	13.0 U	12.0 U	12.0 U	**2.30 J**
Benzo(a)anthracene	56-55-3	µg/kg	**6.80 J**	12.0 U	**2.40 J**	**10.0 J**
Benzo(a)pyrene	50-32-8	µg/kg	**8.30 J**	12.0 U	**8.40 J**	**18.0 J**
Benzo(b)fluoranthene	205-99-2	µg/kg	**18.0 J**	12.0 U	12.0 U	**17.0 J**
Benzo(g,h,i)perylene	191-24-2	µg/kg	**7.70 J**	12.0 U	12.0 U	25.0 U
Benzo(k)fluoranthene	207-08-9	µg/kg	**5.00 J**	12.0 U	12.0 U	**13.0 J**
Chrysene	218-01-9	µg/kg	**11.0 J**	**6.00 J**	12.0 U	**14.0 J**
Dibenz(a,h)anthracene	53-70-3	µg/kg	13.0 U	12.0 U	**3.20 J**	**5.20 J**
Fluoranthene	206-44-0	µg/kg	**17.0 J**	12.0 U	12.0 U	**16.0 J**
Fluorene	86-73-7	µg/kg	13.0 U	12.0 U	12.0 U	12.0 U
Indeno(1,2,3-cd)pyrene	193-39-5	µg/kg	**8.00 J**	12.0 U	24.0 U	25.0 U
Naphthalene	91-20-3	µg/kg	13.0 U	12.0 U	12.0 U	12.0 U
Phenanthrene	85-01-8	µg/kg	**9.60 J**	**2.20 J**	12.0 U	12.0 U
Pyrene	129-00-0	µg/kg	**13.0 J**	12.0 U	12.0 U	**20.0 J**
Inorganics						
Aluminum	7429-90-5	mg/kg	**23400**	**13700**	**17700**	**12700**
Antimony	7440-36-0	mg/kg	0.600 U	0.750 U	**0.470 J**	**0.310 J**
Arsenic	7440-38-2	mg/kg	**12.7**	**9.33**	**11.3**	**15.4**
Barium	7440-39-3	mg/kg	**117**	**72.8**	**95.2**	**54.2**
Beryllium	7440-41-7	mg/kg	**1.12**	**0.705**	**0.661**	**0.563 J**
Cadmium	7440-43-9	mg/kg	**1.33**	**1.77**	**0.420 J**	**0.0610 J**
Calcium	7440-70-2	mg/kg	**1790**	**1100**	**3290**	**1130**
Chromium	7440-47-3	mg/kg	**24.7**	**16.0**	**18.9**	**14.8**
Chromium, Hexavalent	18540-29-9	mg/kg	0.390 U	**0.350 J**	0.400 U	0.370 U
Cobalt	7440-48-4	mg/kg	**10.9**	**14.0**	**6.95**	**5.53**
Copper	7440-50-8	mg/kg	**16.9**	**31.7**	**12.8**	**31.5**
Iron	7439-89-6	mg/kg	**26700**	**20600**	**22300**	**27100**
Lead	7439-92-1	mg/kg	**25.8**	**13.9**	**25.4**	**16.6**
Magnesium	7439-95-4	mg/kg	**2610**	**2400**	**2140**	**2660**
Manganese	7439-96-5	mg/kg	**737**	**514**	**373**	**95.6**
Mercury	7439-97-6	mg/kg	**0.103**	**0.0794**	**0.0951**	**0.0618**
Nickel	7440-02-0	mg/kg	**34.6**	**50.4**	**19.1**	**38.5**
Potassium	7440-09-7	mg/kg	**2210**	**1390**	**1680**	**1410**
Selenium	7782-49-2	mg/kg	**2.36**	**1.20**	**1.60**	**1.10**
Silver	7440-22-4	mg/kg	**0.260 J**	**0.190 J**	**0.936 J**	**1.05 J**
Sodium	7440-23-5	mg/kg	**72.9 J**	**59.9 J**	95.0 U	**49.2 J**
Thallium	7440-28-0	mg/kg	**1.14 J**	**0.974 J**	**0.820 J**	**0.790 J**
Vanadium	7440-62-2	mg/kg	**59.9**	**33.8**	**41.9**	**26.4**
Zinc	7440-66-6	mg/kg	**255**	**165**	**120**	**80.0**

See Notes on Page 5.

Appendix J
Table J-1. Background Soils Data
Remedial Investigation
Nike BU 51/52
Hamburg, NY

Notes:

[1] Sample IDs contain "A" to designate surface interval (0 to 1 ft bgs), "B" to designate first subsurface interval (generally 1 to 3 ft bgs), and "C" to designate second subsurface interval (various depths).

[2] Normal samples are indicated with "N" and field duplicate samples are indicated with "FD".

[3] Detected concentrations are bolded.

Acronyms and Abbreviations:
-- = not available.
µg/kg = micrograms per kilogram.
CASRN = Chemical Abstracts Service Registry Number.
ft = feet.
ft bgs = feet below ground surface.
LOD = limit of detection.
mg/kg = milligrams per kilogram.

Qualifier Definitions:
U = The analyte was not detected and was reported as less than the LOD.
J = The reported result was an estimated value.
R = The data validator flagged the data with “X” qualifiers due to significant QC deficiencies in the laboratory analysis of the samples. The project team performed data usability assessment and recommended these data to be rejected/ are not usable (“R” qualifiers)

Appendix J
Table J-2. Identification of Suspected Outliers
Remedial Investigation
Nike BU 51/52
Hamburg, NY

Analyte	Sample Depth (feet)	Sample Location	Value	Outlier[1]	
				75th Perc. + 1.5 × IQR	75th Perc. + 3.0 × IQR
Semi-Volatile Organic Compounds (SVOCs) (ug/kg)					
Benzo(a)anthracene	0-1	NHFLA-BH47	56	x	x
	1-3	NHFLA-BH44	74	x	x
Benzo(a)pyrene	0-1	NHFLA-BH47	43	x	x
	1-3	NHFLA-BH44	88	x	x
Benzo(b)fluoranthene	0-1	NHFLA-BH47	77	x	x
	1-3	NHFLA-BH44	100	x	x
Benzo(g,h,i)perylene	1-3	NHFLA-BH44	55	x	x
Benzo(k)fluoranthene	1-3	NHFLA-BH44	56	x	x
Chrysene	0-1	NHFLA-BH47	54	x	
	1-3	NHFLA-BH44	94	x	x
	1-3	NHFLA-BH51	14	x	
Fluoranthene	0-1	NHFLA-BH47	160	x	x
	0-1	NHFLA-BH48	44	x	x
	1-3	NHFLA-BH44	150	x	x
Indeno(1,2,3-cd)pyrene	1-3	NHFLA-BH44	67	x	x
Phenanthrene	0-1	NHFLA-BH47	130	x	x
	1-3	NHFLA-BH44	70	x	
Pyrene	0-1	NHFLA-BH47	100	x	x
	1-3	NHFLA-BH44	150	x	x
Inorganics (mg/kg)					
Aluminum	0-1	NHFLA-BH50	23,400	x	
	1-3	NHFLA-BH44	17,800	x	
Beryllium	0-1	NHFLA-BH49	1.9	x	x
Cadmium	1-3	NHFLA-BH39	2.9	x	
Calcium	0-1	NHFLA-BH36	77,900	x	x
	1-3	NHFLA-BH40	84,000	x	
Iron	0-1	NHFLA-BH39	47,600	x	
	1-3	NHFLA-BH39	54,200	x	
Lead	0-1	NHFLA-BH38	37.9	x	
	0-1	NHFLA-BH49	38.1	x	
Magnesium	0-1	NHFLA-BH36	8,980	x	x
	1-3	NHFLA-BH40	10,850	x	x
	1-3	NHFLA-BH46	9,080	x	x
Manganese	1-3	NHFLA-BH39	2,790	x	x
Mercury	0-1	NHFLA-BH44	0.15	x	
	1-3	NHFLA-BH39	0.13	x	
Potassium	1-3	NHFLA-BH40	2,765	x	
Selenium	1-3	NHFLA-BH44	3.5	x	
Vanadium	0-1	NHFLA-BH49	64.6	x	
Zinc	1-3	NHFLA-BH39	366	x	

Abbreviations:
mg/kg = milligrams per kilogram
ug/kg = micrograms per kilogram
IQR = interquartile range
Perc. = percentile

Notes:

[1] Suspected outliers identified using the 75th percentile plus either 1.5 times the IQR (i.e., 75th - 25th percentiles) or 3.0 times the IQR. Mild suspected outliers correspond to 75th Perc. + 1.5 × IQR; while more extreme suspected outliers correspond to 75th Perc. + 3.0 × IQR.

Appendix J
Table J-3. Decision Tree for Statistic Used for the Background Threshold Values
Remedial Investigation
Nike BU 51/52
Hamburg, NY

Sample Size	Censoring	Distribution[1]	Skewness[2]	Statistic Used for Upper Bound UTL-based Threshold Value[3, 4]
n < 8	Detects < 8	NA	NA	Maximum detect
n ≥ 8	Detects < 5	NA	NA	Maximum detect
	Detects ≥ 5 ND = 0	N N and LN N and LN and G	NA	Normal 95/95 UTL
		LN	NA	Lognormal 95/95 UTL
		G LN and G	NA	minimum of WH Gamma 95/95 UTL or HW Gamma 95/95 UTL
		not N, LN, or G	NA	Nonparametric 95/95 UTL[4]
	Detects ≥ 5 ND > 0	N, LN, or G	NA	Kaplan-Meier 95/95 UTL
		not N, LN, or G (i.e., nonparametric)	Mild	Kaplan-Meier 95/95 UTL
			Moderate to High	Nonparametric 95/95 UTL[4]

Abbreviations:

95/95 UTL = one-sided 95 percent upper tolerance limit for the 95th percentile
BTV = Background Threshold Value
G = gamma distribution
HW = Hawkins Wixley
LN = lognormal distribution
N = normal distribution
n = sample size (detects + nondetects)
NA = not applicable
ND = nondetects
UCL = upper confidence limit on the mean
USEPA = United States Environmental Protection Agency
UTL = upper tolerance limit
WH = Wilson Hilferty

Notes:

[1] Goodness-of-fit test at α=0.05 significance level implemented with ProUCL ProUCL 5.1.002 (USEPA, 2015). Distributions tested for normality or lognormality using Shapiro Wilk (n≤50) and Lillierfors (n>50) and for gamma distribution using Kolmogorov-Smirnov.

[2] Skewness estimated using the standard deviation of the log-transformed data (detects only) (σ). Datasets with σ≤1.0 are considered mildly skewed; σ>1.0 is considered moderately to highly skewed (USEPA, 2015).

[2] Use of UTLs for establishing upper bound for background is consistent with USEPA guidance (1989; 1992; 2009). Requirements for minimum sample size and number of detects, and hierarchy for preferred distributions are consistent with USEPA (2015).

[3] If the result is greater than the maximum detected concentration, then BTV = maximum detect.

[4] Nonparametric UTL is based on a rank-ordered value in the data set. For sample sizes n<92, the nonparametric 95/95 UTL is equivalent to the maximum detect (Conover, 1999).

References:

Conover, W.J. 1999. Practical Nonparametric Statistics. Third Edition. John Wiley & Sons.

USEPA. 1989. Statistical Analysis of Ground-water Monitoring Data at RCRA Facilities. Interim Final Guidance. Office of Solid Waste, Waste Management Division. April.

USEPA. 1992. Statistical Analysis of Ground-water Monitoring Data at RCRA Facilities. Addendum to Interim Final Guidance. Office of Solid Waste. July.

USEPA. 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance. Office of Resource Conservation and Recovery. EPA/530/R-09/007. March.

USEPA. 2015. ProUCL Version 5.1.002 Technical Guide. Office of Research and Development. EPA/600/R-07/041. October.

Appendix J
Table J-4a. Surface Soil (0 - 1 ft bgs) Background Threshold Values
Remedial Investigation
Nike BU 51/52
Hamburg, NY

Analyte[1]	FOD	Distribution[2]	Min Detect	Max Detect	95/95 UTL[3]	UTL Method[3]	Minimum Coverage[4]	Final BTV[5]		NYS Background[6]	
								Value	Basis	95th Perc.	Maximum
Semi-Volatile Organic Compounds (SVOCs) (µg/kg)											
2-Methylnaphthalene	0 / 16 (0%)	--	--	--	--	--	--	--	--	<16	<27
Acenaphthene	1 / 16 (6.3%)	--	11.0	11.0	--	--	--	11.0	Max (a)	<20	<35
Acenaphthylene	0 / 16 (0%)	--	--	--	--	--	--	--	--	<36	110
Anthracene	3 / 16 (19%)	--	1.6	17.0	--	--	--	17.0	Max (a)	<35	120
Benzo(a)anthracene	14 / 16 (88%)	NP	2.3	56.0	56.0	NP 95/95UTL KM	0.829	56.0	95UTL	72	500
Benzo(a)pyrene	15 / 16 (94%)	NP	5.9	43.0	43.0	NP 95/95UTL	0.829	43.0	95UTL	41	470
Benzo(b)fluoranthene	13 / 16 (81%)	Ln	5.3	77.0	89.4	Lognormal 95/95UTL KM	--	77.0	Max (b)	110	590
Benzo(g,h,i)perylene	12 / 16 (75%)	Ln	3.1	24.0	23.8	Lognormal 95/95UTL KM	--	23.8	95UTL	<62***	200
Benzo(k)fluoranthene	12 / 16 (75%)	NP	5.0	24.0	24.0	NP 95/95UTL KM	0.829	24.0	95UTL	<54***	330
Chrysene	14 / 16 (88%)	G,Ln	4.0	54.0	46.7	Gamma WH 95/95UTL KM	--	46.7	95UTL	100	610
Dibenz(a,h)anthracene	6 / 16 (38%)	NP	2.4	7.9	14.0	NP 95/95UTL KM	0.829	7.9	Max (b)	<27	<46
Fluoranthene	13 / 16 (81%)	NP	6.0	160	160	NP 95/95UTL KM	0.829	160	95UTL	130	1,200
Fluorene	1 / 16 (6.3%)	--	10.0	10.0	--	--	--	10.0	Max (a)	<33	87.0
Indeno(1,2,3-cd)pyrene	12 / 16 (75%)	G,Ln	3.2	26.0	22.1	Gamma WH 95/95UTL KM	--	22.1	95UTL	<34	180
Naphthalene	0 / 16 (0%)	--	--	--	--	--	--	--	--	12	24.0
Phenanthrene	12 / 16 (75%)	NP	3.7	130	130	NP 95/95UTL KM	0.829	130	95UTL	72	770
Pyrene	13 / 16 (81%)	Ln	4.6	100	97.0	Lognormal 95/95UTL KM	--	97.0	95UTL	170	1,100
Inorganics (mg/kg)											
Aluminum	16 / 16 (100%)	N,G,Ln	12,200	23,400	24,397	Normal 95/95UTL	--	23,400	Max (b)	14,000	17,000
Antimony	7 / 15 (47%)	NP	0.084	0.96	1.1	NP 95/95UTL	0.829	0.96	Max (b)	<1.2***	<2.7***
Arsenic	16 / 16 (100%)	N,G,Ln	7.3	21.3	23.3	Normal 95/95UTL	--	21.3	Max (b)	10.0	14.0
Barium	16 / 16 (100%)	N,G,Ln	64.0	122	146	Normal 95/95UTL	--	122	Max (b)	126	312
Beryllium	16 / 16 (100%)	N,G,Ln	0.60	1.9	1.6	Normal 95/95UTL	--	1.6	95UTL	0.90	1.1
Cadmium	16 / 16 (100%)	N,G,Ln	0.35	1.3	1.5	Normal 95/95UTL	--	1.3	Max (b)	1.9	2.7
Calcium	16 / 16 (100%)	Ln	1,150	77,900	40,484	Lognormal 95/95UTL	--	40,500	95UTL	7,010	46,400
Chromium	16 / 16 (100%)	N,G,Ln	16.4	24.8	26.9	Normal 95/95UTL	--	24.8	Max (b)	17.0	22.0
Chromium VI	2 / 15 (13%)	--	0.25	0.72	--	--	--	0.72	Max (a)	--	--
Cobalt	16 / 16 (100%)	N,G,Ln	6.5	17.5	19.2	Normal 95/95UTL	--	17.5	Max (b)	11.0	14.8
Copper	16 / 16 (100%)	N,G,Ln	10.7	36.9	40.5	Normal 95/95UTL	--	36.9	Max (b)	26.0	61.0
Iron	16 / 16 (100%)	N,G,Ln	21,300	47,600	49,764	Normal 95/95UTL	--	47,600	Max (b)	22,400	27,600
Lead	16 / 16 (100%)	N	11.5	38.1	43.7	Normal 95/95UTL	--	38.1	Max (b)	63.0	75.0
Magnesium	16 / 16 (100%)	NP	1,780	8,980	8,980	NP 95/95UTL	0.829	8,980	95UTL	4,110	7,790
Manganese	16 / 16 (100%)	N,G,Ln	201	773	912	Normal 95/95UTL	--	773	Max (b)	1,030	1,760
Mercury	16 / 16 (100%)	N,G,Ln	0.035	0.15	0.16	Normal 95/95UTL	--	0.15	Max (b)	0.14	0.27
Nickel	16 / 16 (100%)	N,G,Ln	19.1	44.8	49.0	Normal 95/95UTL	--	44.8	Max (b)	22.0	26.0
Potassium	16 / 16 (100%)	N,G,Ln	1,180	2,210	2,567	Normal 95/95UTL	--	2,210	Max (b)	--	--
Selenium	16 / 16 (100%)	N,G,Ln	0.87	2.4	2.7	Normal 95/95UTL	--	2.4	Max (b)	3.3	5.7
Silver	14 / 16 (88%)	G, Ln	0.059	1.1	1.8	Gamma WH 95/95UTL KM	--	1.1	Max (b)	0.4*	1.3
Sodium	7 / 16 (44%)	G, Ln	53.1	112	109	Gamma WH 95/95UTL KM	--	109	95UTL	<179***	269
Thallium	7 / 16 (44%)	NP	0.14	1.1	1.1	NP 95/95UTL KM	0.829	1.1	95UTL	--	--
Vanadium	16 / 16 (100%)	N,G,Ln	26.6	64.6	67.3	Normal 95/95UTL	--	64.6	Max (b)	26.0	38.0
Zinc	16 / 16 (100%)	N,G,Ln	81.7	255	273	Normal 95/95UTL	--	255	Max (b)	115	180

Abbreviations:

95/95 UTL = one-sided 95 percent upper confidence limit for the 95th percentile
BTV = background threshold value
FOD = frequency of detection
ft bgs = feet below ground surface
G = gamma
KM = Kaplan-Meier
Ln = lognormal
mg/kg = milligrams per kilogram
N = normal
NP = nonparametric
Perc. = percentile
-- = insufficient data for calculating statistics
Max (a) = insufficient data for calculating UTL; BTV is based on the maximum
Max (b) = 95UTL is greater than the maximum; BTV is based on the maximum
UTL = upper tolerance limit
µg/kg = micrograms per kilogram
WH = Wilson Hilferty

Notes:

[1] Statistics are provided for full datasets. Potential statistical outliers identified in the dataset are presented in Table J-2.

[2] Distribution assessed by goodness-of-fit tests based on detected values only conducted using ProUCL 5.1.002 at a 95% confidence level (α = 0.05).
Distribution for BTV selected according to the following hierarchy: normal > gamma > lognormal > nonparametric.

[3] UTLs only calculated for analytes with at least 8 total observations and 5 detected observations (USEPA, 2015).

[4] For nonparametric UTLs, the achieved minimum coverage with 95% confidence is provided (USEPA 2009, Table 17-4).

[5] Final BTV selected in accordance with decision tree presented in Table J-3.
Notes indicate basis for BTV: UTL = 95/95 UTL; Max = maximum detected concentration; ND = BTV not defined because FOD=0%.
Values less than 10 are reported to 2 significant figures. Values greater than 10 are reported to 3 significant figures.

[6] New York State soil background are 95th percentiles and maximums for source-distant samples collected as part of rural soil survey (NYSDEC, 2005).
< # = value is non-detect and value shown is method detection limit.
*Actual detected value; other non-detected readings had higher values.
***Actual non-detected value; other detected readings had lower values.

References:

NYSDEC. 2005. Concentrations of Selected Analytes in Rural New York State Surface Soils: A Summary Report on the Sitewide Rural Soil Survey.
USEPA. 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance. Office of Resource Conservation and Recovery. EPA 530-R-09-007. March.
USEPA. 2015. ProUCL Version 5.1.002 Technical Guide. Office of Research and Development. EPA/600/R-07/041. October.

Appendix J
Table J-4b. Shallow Sub-Surface Soil (1 - 3 ft bgs) Background Threshold Values
Remedial Investigation
Nike BU 51/52
Hamburg, NY

Analyte[1]	FOD	Distribution[2]	Min Detect	Max Detect	95/95 UTL[3]	UTL Method[3]	Minimum Coverage[4]	Final BTV[5]		NYS Background[6]	
								Value	Basis	95th Perc.	Maximum
Semi-Volatile Organic Compounds (SVOCs) (µg/kg)											
2-Methylnaphthalene	0 / 16 (0%)	--	--	--	--	--	--	--	--	<16	<27
Acenaphthene	1 / 16 (6.3%)	--	5.2	5.2	--	--	--	5.2	Max (a)	<20	<35
Acenaphthylene	1 / 16 (6.3%)	--	2.2	2.2	--	--	--	2.2	Max (a)	<36	110
Anthracene	3 / 16 (19%)	--	1.4	9.6	--	--	--	9.6	Max (a)	<35	120
Benzo(a)anthracene	7 / 16 (44%)	NP	2.3	74.0	74.0	NP 95/95UTL KM	0.829	74.0	95UTL	72	500
Benzo(a)pyrene	5 / 16 (31%)	NP	5.2	88.0	88.0	NP 95/95UTL KM	0.829	88.0	95UTL	41	470
Benzo(b)fluoranthene	8 / 16 (50%)	G	3.3	100	59.8	Gamma WH 95/95UTL	--	59.8	95UTL	110	590
Benzo(g,h,i)perylene	5 / 16 (31%)	NP	2.8	55.0	55.0	NP 95/95UTL KM	0.829	55.0	95UTL	<62***	200
Benzo(k)fluoranthene	3 / 16 (19%)	--	12.0	56.0	--	--	--	56.0	Max (a)	<54***	330
Chrysene	16 / 16 (100%)	Ln	2.1	94.0	59.0	Lognormal 95/95UTL	--	59.0	95UTL	100	610
Dibenz(a,h)anthracene	4 / 16 (25%)	--	4.4	20.0	--	--	--	20.0	Max (a)	<27	<46
Fluoranthene	8 / 16 (50%)	NP	2.1	150	150	NP 95/95UTL KM	0.829	150.0	95UTL	130	1,200
Fluorene	1 / 16 (6.3%)	--	6.2	6.2	--	--	--	6.2	Max (a)	<33	87.0
Indeno(1,2,3-cd)pyrene	4 / 16 (25%)	--	2.3	67.0	--	--	--	67.0	Max (a)	<34	180
Naphthalene	0 / 16 (0%)	--	--	--	--	--	--	--	--	12	24.0
Phenanthrene	10 / 16 (63%)	NP	2.1	70.0	70.0	NP 95/95UTL KM	0.829	70.0	95UTL	72	770
Pyrene	7 / 16 (44%)	NP	4.6	150	150	NP 95/95UTL KM	0.829	150.0	95UTL	170	1,100
Inorganics (mg/kg)											
Aluminum	16 / 16 (100%)	N,G	8,620	17,800	20,004	Normal 95/95UTL	--	17,800	Max (b)	14,000	17,000
Antimony	6 / 16 (38%)	NP	0.21	1.2	1.2	NP 95/95UTL	0.829	1.2	95UTL	<1.2***	<2.7***
Arsenic	16 / 16 (100%)	N,G,Ln	5.6	19.3	23.3	Normal 95/95UTL	--	19.3	Max (b)	10.0	14.0
Barium	16 / 16 (100%)	N,G,Ln	34.4	108	132	Normal 95/95UTL	--	108	Max (b)	126	312
Beryllium	16 / 16 (100%)	N,G,Ln	0.53	1.0	1.0	Normal 95/95UTL	--	1.0	Max (b)	0.90	1.1
Cadmium	16 / 16 (100%)	G,Ln	0.061	2.9	3.9	Gamma WH 95/95UTL	--	2.9	Max (b)	1.9	2.7
Calcium	16 / 16 (100%)	G,Ln	934	84,000	118,092	Gamma WH 95/95UTL	--	84,000	Max (b)	7,010	46,400
Chromium	16 / 16 (100%)	N,G,Ln	11.6	22.1	24.3	Normal 95/95UTL	--	22.1	Max (b)	17.0	22.0
Chromium VI	6 / 16 (38%)	NP	0.18	0.42	0.73	NP 95/95UTL	0.829	0.42	Max (b)	--	--
Cobalt	16 / 16 (100%)	N,G,Ln	5.5	20.7	21.5	Normal 95/95UTL	--	20.7	Max (b)	11.0	14.8
Copper	16 / 16 (100%)	N,G,Ln	16.1	52.2	57.5	Normal 95/95UTL	--	52.2	Max (b)	26.0	61.0
Iron	16 / 16 (100%)	N,G,Ln	18,200	54,200	52,204	Normal 95/95UTL	--	52,200	95UTL	22,400	27,600
Lead	16 / 16 (100%)	N,G,Ln	9.6	31.8	32.6	Normal 95/95UTL	--	31.8	Max (b)	63.0	75.0
Magnesium	16 / 16 (100%)	Ln	2,000	10,850	12,480	Lognormal 95/95UTL	--	10,900	Max (b)	4,110	7,790
Manganese	16 / 16 (100%)	Ln	95.6	2,790	2,410	Lognormal 95/95UTL	--	2,410	95UTL	1,030	1,760
Mercury	16 / 16 (100%)	N,G,Ln	0.018	0.13	0.14	Normal 95/95UTL	--	0.13	Max (b)	0.14	0.27
Nickel	16 / 16 (100%)	N,G,Ln	23.3	77.0	86.0	Normal 95/95UTL	--	77.0	Max (b)	22.0	26.0
Potassium	16 / 16 (100%)	N,G,Ln	1,130	2,765	2,686	Normal 95/95UTL	--	2,690	95UTL	--	--
Selenium	16 / 16 (100%)	G,Ln	0.68	3.5	3.8	Gamma WH 95/95UTL	--	3.5	Max (b)	3.3	5.7
Silver	9 / 16 (56%)	NP	0.10	1.1	1.1	NP 95/95UTL	0.829	1.1	95UTL	0.4*	1.3
Sodium	9 / 16 (56%)	N,G,Ln	49.1	130	138	Normal 95/95UTL KM	--	130	Max (b)	<179***	269
Thallium	11 / 16 (69%)	N,G,Ln	0.26	1.2	1.4	Normal 95/95UTL KM	--	1.2	Max (b)	--	--
Vanadium	16 / 16 (100%)	N,G,Ln	22.5	45.6	49.1	Normal 95/95UTL	--	45.6	Max (b)	26.0	38.0
Zinc	16 / 16 (100%)	N,G,Ln	65.8	366	362	Normal 95/95UTL	--	362	95UTL	115	180

Abbreviations:

95/95 UTL = one-sided 95 percent upper confidence limit for the 95th percentile
BTV = background threshold value
FOD = frequency of detection
ft bgs = feet below ground surface
G = gamma
HW = Hawkins Wixley
KM = Kaplan-Meier
Ln = lognormal
mg/kg = milligrams per kilogram
N = normal
NP = nonparametric
Perc. = percentile
-- = insufficient data for calculating statistics
Max (a) = insufficient data for calculating UTL; BTV is based on the maximum
Max (b) = 95UTL is greater than the maximum; BTV is based on the maximum
UTL = upper tolerance limit
ug/kg = micrograms per kilogram
WH = Wilson Hilferty

Notes:

1 Statistics are provided for full datasets. Potential statistical outliers identified in the dataset are presented in Table J-2.

2 Distribution assessed by goodness-of-fit tests based on detected values only conducted using ProUCL 5.1.002 at a 95% confidence level (α = 0.05).
Distribution for BTV selected according to the following hierarchy: normal > gamma > lognormal > nonparametric.

3 UTLs only calculated for analytes with at least 8 total observations and 5 detected observations (USEPA, 2015).

4 For nonparametric UTLs, the achieved minimum coverage with 95% confidence is provided (USEPA 2009, Table 17-4).

5 Final BTV selected in accordance with decision tree presented in Table J-3.
Notes indicate basis for BTV: UTL = 95/95 UTL; Max = maximum detected concentration; ND = BTV not defined because FOD=0%.
Values less than 10 are reported to 2 significant figures. Values greater than 10 are reported to 3 significant figures.

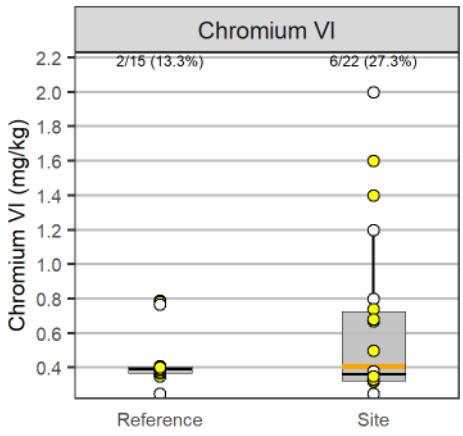
6 New York State soil background are 95th percentiles and maximums for source-distant samples collected as part of rural soil survey (NYSDEC, 2005).
< # = value is non-detect and value shown is method detection limit.
*Actual detected value; other non-detected readings had higher values.
***Actual non-detected value; other detected readings had lower values.

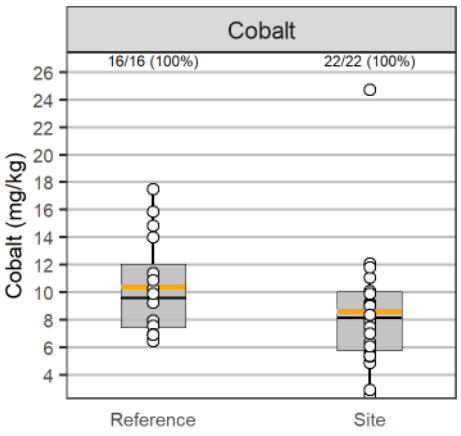
References:

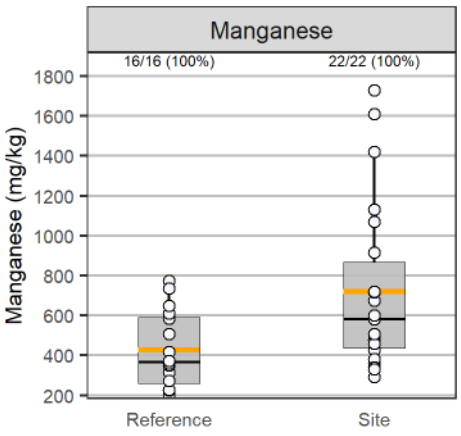
NYSDEC. 2005. Concentrations of Selected Analytes in Rural New York State Surface Soils: A Summary Report on the Sitewide Rural Soil Survey.
USEPA. 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Unified Guidance. Office of Resource Conservation and Recovery. EPA 530-R-09-007. March.
USEPA. 2015. ProUCL Version 5.1.002 Technical Guide. Office of Research and Development. EPA/600/R-07/041. October.

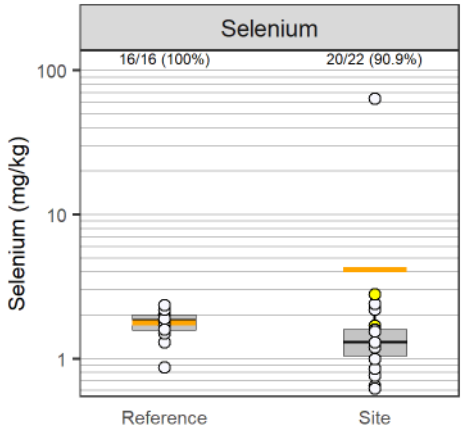
Appendix J, Part 2

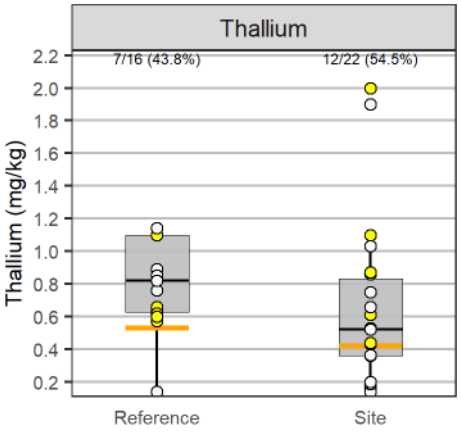
Box Plots comparing Site to Reference Soil Data

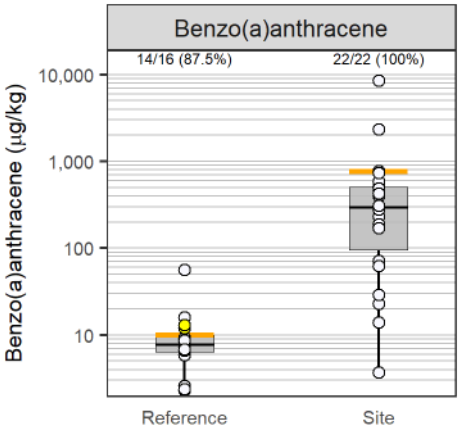


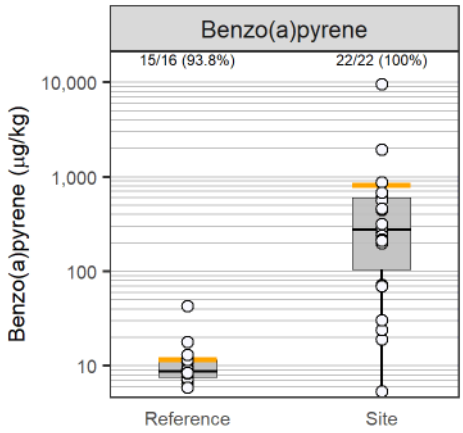


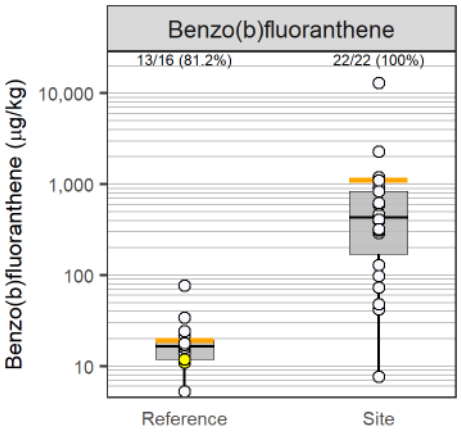


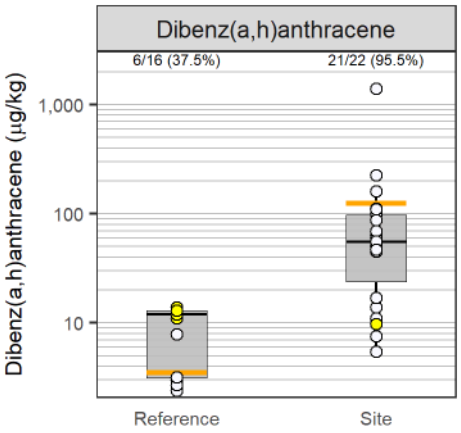


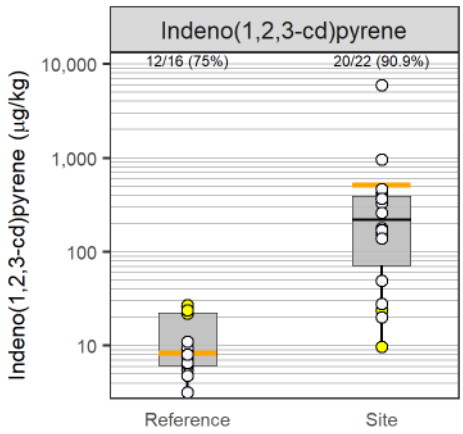






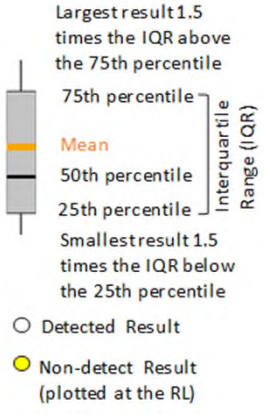






The population mean was estimated as follows:

- If the samples size was ≥ 8 and all results were detected, the arithmetic mean was calculated.
- If the samples size was ≥ 8, the frequency of detection (FOD) was <100% and ≥ 50%:
  - > 1 unique non-detect reporting limit (RL), the Kaplan Meier (KM) mean was calculated.
  - 1 unique non-detect RL, the mean was estimated using Robust Regression on Order Statistics (ROS).
- If the samples size was ≥ 8 and the FOD was <50% and ≥ 20%, the mean was estimated using ROS.
- If the dataset had < 8 samples and/or FOD < 20%, the mean was not estimated.

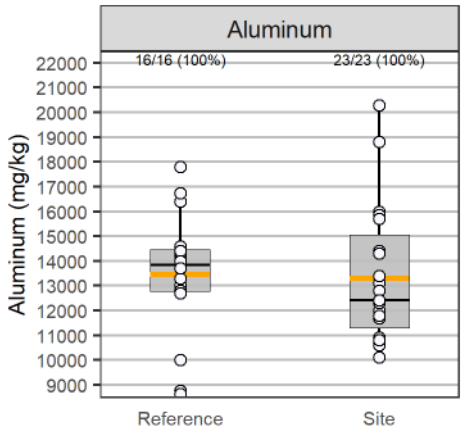


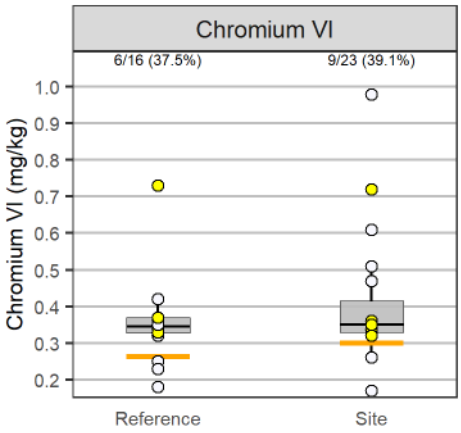
Former Launch Area
Nike Antiaircraft Missile Battery
Baseline Risk Assessment

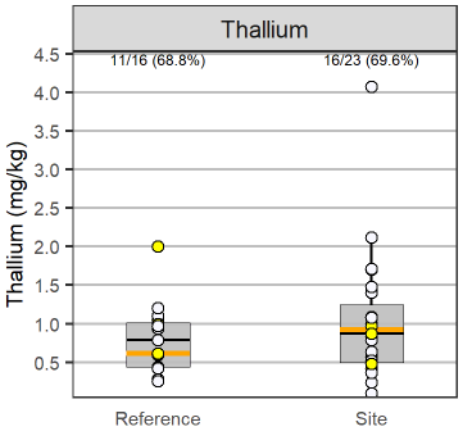
SITE AND REFERENCE AREA COMPARISON - SURFACE SOIL

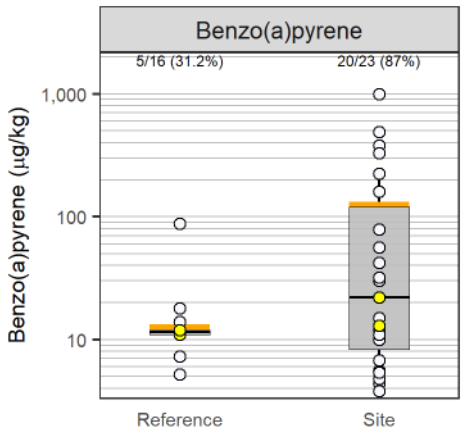
ARCADIS

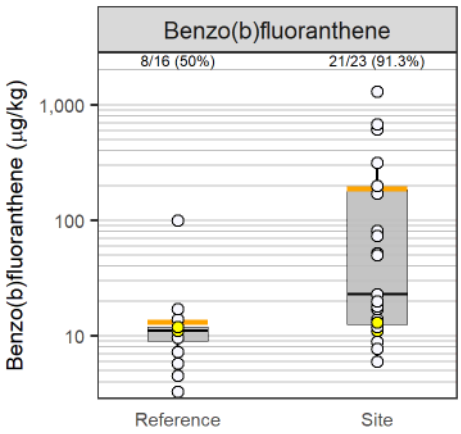
FIGURE
J-1

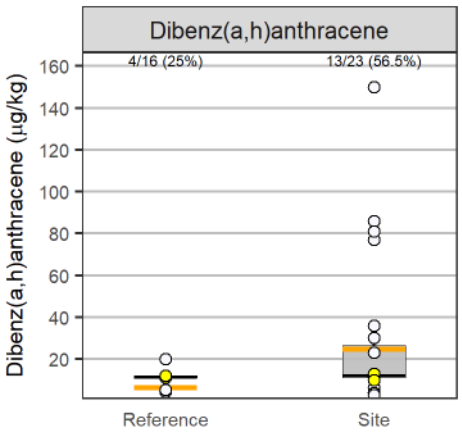












The population mean was estimated as follows:

- If the samples size was ≥ 8 and all results were detected, the arithmetic mean was calculated.
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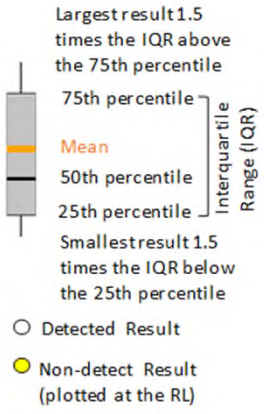
  - 1 unique non-detect RL, the mean was estimated using Robust Regression on Order Statistics (ROS).
- If the samples size was ≥ 8 and the FOD was <50% and ≥ 20%, the mean was estimated using ROS.
- If the dataset had < 8 samples and/or FOD < 20%, the mean was not estimated.



Former Launch Area
Nike Antiaircraft Missile Battery
Baseline Risk Assessment

SITE AND REFERENCE AREA COMPARISON - SUBSURFACE SOIL

ARCADIS

FIGURE
J-2

Appendix J, Part 3

Hypothesis Test Results

Appendix J
Table J-5. Site and Reference Area Soil Data Set Comparisons using One-Sided, Two-Sample Hypothesis Tests
Remedial Investigation
Nike BU 51/52
Hamburg, NY

Evaluation Area	Depth Interval	CASRN	Constituent of Potential Concern	Data Units	Site Dataset						Background Dataset						Central Tendency Test		
					n	Detects	Mean[1]	Median[2]	FOD (%)	Distribution[3]	n	Detects	Mean[1]	Median[2]	FOD (%)	Distribution[3]	Test	P-Value	Site Different from Background?[7]
Former Launch Area	0-1 ft bgs for Site and Reference Soil Data Sets	56-55-3	Benzo(a)anthracene	µg/kg	22	22	765	295	100%	Ln	16	14	11	7.0	88%	NP	T-W	<0.001	**Site > Background**
		50-32-8	Benzo(a)pyrene	µg/kg	22	22	808	275	100%	Ln	16	15	12	8.4	94%	NP	T-W	<0.001	**Site > Background**
		205-99-2	Benzo(b)fluoranthene	µg/kg	22	22	1,113	430	100%	Ln	16	13	22	18	81%	Ln	T-W	<0.001	**Site > Background**
		53-70-3	Dibenz(a,h)anthracene	µg/kg	22	21	131	56	95%	Ln	16	6	3.7	2.9	38%	NP	T-W	<0.001	**Site > Background**
		193-39-5	Indeno(1,2,3-cd)pyrene	µg/kg	22	20	565	295	91%	Ln	16	12	8.6	7.1	75%	G,Ln	T-W	<0.001	**Site > Background**
		18540-29-9	Chromium VI	mg/kg	22	6	0.81	0.59	27%	G	15	2	--	--	13%	--	--	--	Insufficient FOD
		7440-48-4	Cobalt	mg/kg	22	22	8.6	8.2	100%	N/G/Ln	16	16	10	9.6	100%	N,G,Ln	t-test	0.901	Site ≤ Background
		7439-96-5	Manganese	mg/kg	22	22	719	581	100%	G/Ln	16	16	427	367	100%	N,G,Ln	WMW	0.00865	**Site > Background**
		7782-49-2	Selenium	mg/kg	22	20	4.4	1.3	91%	NP	16	16	1.8	1.9	100%	N,G,Ln	T-W	0.999	Site ≤ Background
		7440-28-0	Thallium	mg/kg	22	12	0.54	0.36	55%	G/Ln	16	7	0.77	0.82	44%	N,G,Ln	T-W	0.872	Site ≤ Background
	1-10 ft bgs for Site and 1-3 ft bgs for Reference Soil Data Set	50-32-8	Benzo(a)pyrene	µg/kg	23	20	145	31	87%	G/Ln	16	5	27	14	31%	Ln	T-W	0.0121	**Site > Background**
		205-99-2	Benzo(b)fluoranthene	µg/kg	23	21	204	50	91%	Ln	16	8	20	8.5	50%	G	T-W	<0.001	**Site > Background**
		53-70-3	Dibenz(a,h)anthracene	µg/kg	23	13	40	23	57%	NP	16	4	--	--	25%	--	--	--	Insufficient FOD
		7429-90-5	Aluminum	mg/kg	23	23	13302	12400	100%	N/G/Ln	16	16	13,458	13,850	100%	N,G	t-test	0.571	Site ≤ Background
		18540-29-9	Chromium VI	mg/kg	23	9	0.44	0.47	39%	G	16	6	0.29	0.29	38%	N,G,Ln	T-W	0.262	Site ≤ Background
		7440-28-0	Thallium	mg/kg	23	16	1.2	1.0	70%	G/Ln	16	11	0.68	0.79	69%	N,G,Ln	T-W	0.223	Site ≤ Background

Abbreviations:

FOD: frequency of detection
Ho: null hypothesis
mg/kg: milligrams per kilogram
n: sample size
n/a: not analyzed
WMW: Wilcoxon-Mann-Whitney
T-W: Tarone-Ware
µg/kg: micrograms per kilogram
<: less than
≤: less than or equal to
=: equals
≠: does not equal

Notes:

1. The mean concentration includes a Kaplan-Meier adjustment for nondetects if the dataset contains non-detects. Kaplan-Meier adjustments calculated using ProUCL version 5.1.002.
2. The median concentration is the 50th percentile for the full dataset (i.e., includes detects and non-detects).
3. Distribution assessed by goodness-of-fit tests using ProUCL Version 5.1.002 at a 95% confidence level (a = 0.05).
   Distributions:
   Normal (N): dataset follows a normal distribution according to the Shapiro-Wilk test (n ≤ 50) or Lilliefors test (n > 50).
   Gamma (G): dataset follows a gamma distribution according to the Anderson-Darling or Kolmogorov-Smirnov test.
   Lognormal (Ln): dataset follows a lognormal distribution according to the Shapiro-Wilk test (n ≤ 50) or Lilliefors test (n > 50).
   Nonparametric (NP): dataset does not follow any of the three distributions listed above.
4. Site mean or median concentration minus background mean or median concentration.
5. Hypothesis testing conducted on datasets with sample size ≥ 8 and detects ≥ 5 in ProUCL version 5.1.002. Appropriate hypothesis test selected based on degree of censoring, range of non-detects, and distribution of the dataset:
   t-Test: FOD = 100% and both datasets are normally or lognormally distributed.
   Wilcoxon-Mann-Whitney: 40% < FOD ≤ 100%, dataset includes non-detects with a single reporting limit or datasets were not normally distributed.
   Tarone-Ware: FOD < 100%, one or both datasets include detects at or below the minimum non-detect reporting limit.
6. Two-sided Alternative Null hypothesis H_o: Site Mean/Median = Background Mean/Median. Reject H_o if p-value is less than 0.1. Conclusions are based on α = 0.1.
   Gray shading indicates there is a statistically significant difference between site and background concentrations.
   One-sided Alternative Null hypothesis Ho: Site Mean/Median ≤ Background Mean/Median. Reject Ho if p-value is less than 0.05. Conclusions are based on α = 0.05.
   Gray shading indicates there is a statistically significant difference between site and background concentrations.

References:

USEPA. 2015. ProUCL Version 5.1 Technical Guide. Office of Research and Development. EPA/600/R-07/041. October.

Tarone-Ware Sample 1 vs Sample 2 Comparison Hypothesis Test for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.16/16/2021 7:39:24 PM
From File	2021.06.16 - ProUCL Input_Nike_a.xls
Full Precision	OFF
Confidence Coefficient	95%
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: BAA_Site_0-1

Sample 2 Data: BAA_Ref_0-1

Raw Statistics

	Sample 1	Sample 2
Number of Valid Data	22	16
Number of Non-Detects	0	2
Number of Detects	22	14
Minimum Non-Detect	N/A	12
Maximum Non-Detect	N/A	13
Percent Non-detects	0.00%	12.50%
Minimum Detect	3.7	2.3
Maximum Detect	8500	56
Mean of Detects	764.5	10.53
Median of Detects	295	7
SD of Detects	1797	13.54
KM Mean	764.5	9.998
KM SD	1797	12.32

Sample 1 vs Sample 2 Tarone-Ware Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

TW Statistic	5.039
TW Critical Value (0.05)	1.645
P-Value	2.3364E-7

Conclusion with Alpha = 0.05

Reject H0, Conclude Sample 1 > Sample 2

P-Value < alpha (0.05)

Tarone-Ware Sample 1 vs Sample 2 Comparison Hypothesis Test for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.16/16/2021 7:12:33 PM
From File	2021.06.16 - ProUCL Input_Nike_a.xls
Full Precision	OFF
Confidence Coefficient	95%
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: BAP_Site_0-1

Sample 2 Data: BAP_Ref_0-1

Raw Statistics

	Sample 1	Sample 2
Number of Valid Data	22	16
Number of Non-Detects	0	1
Number of Detects	22	15
Minimum Non-Detect	N/A	11
Maximum Non-Detect	N/A	11
Percent Non-detects	0.00%	6.25%
Minimum Detect	5.4	5.9
Maximum Detect	9600	43
Mean of Detects	808.2	11.7
Median of Detects	275	8.4
SD of Detects	2010	9.199
KM Mean	808.2	11.46
KM SD	2010	8.661

Sample 1 vs Sample 2 Tarone-Ware Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

TW Statistic	4.759
TW Critical Value (0.05)	1.645
P-Value	9.7475E-7

Conclusion with Alpha = 0.05

Reject H0, Conclude Sample 1 > Sample 2

P-Value < alpha (0.05)

Tarone-Ware Sample 1 vs Sample 2 Comparison Hypothesis Test for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.16/16/2021 7:14:55 PM
From File	2021.06.16 - ProUCL Input_Nike_a.xls
Full Precision	OFF
Confidence Coefficient	95%
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: BBF_Site_0-1

Sample 2 Data: BBF_Ref_0-1

Raw Statistics

	Sample 1	Sample 2
Number of Valid Data	22	16
Number of Non-Detects	0	3
Number of Detects	22	13
Minimum Non-Detect	N/A	11
Maximum Non-Detect	N/A	12
Percent Non-detects	0.00%	18.75%
Minimum Detect	7.7	5.3
Maximum Detect	13000	77
Mean of Detects	1113	22.37
Median of Detects	430	18
SD of Detects	2706	17.74
KM Mean	1113	19.17
KM SD	2706	16.74

Sample 1 vs Sample 2 Tarone-Ware Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

TW Statistic	5.002
TW Critical Value (0.05)	1.645
P-Value	2.8407E-7

Conclusion with Alpha = 0.05

Reject H0, Conclude Sample 1 > Sample 2

P-Value < alpha (0.05)

Tarone-Ware Sample 1 vs Sample 2 Comparison Hypothesis Test for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.16/16/2021 7:16:26 PM
From File	2021.06.16 - ProUCL Input_Nike_a.xls
Full Precision	OFF
Confidence Coefficient	95%
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: DAHA_Site_0-1

Sample 2 Data: DAHA_Ref_0-1

Raw Statistics

	Sample 1	Sample 2
Number of Valid Data	22	16
Number of Non-Detects	1	10
Number of Detects	21	6
Minimum Non-Detect	9.8	11
Maximum Non-Detect	9.8	14
Percent Non-detects	4.55%	62.50%
Minimum Detect	5.5	2.4
Maximum Detect	1400	7.9
Mean of Detects	130.9	3.65
Median of Detects	56	2.85
SD of Detects	295.6	2.1
KM Mean	125.3	3.65
KM SD	283	1.917

Sample 1 vs Sample 2 Tarone-Ware Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

TW Statistic	5.116
TW Critical Value (0.05)	1.645
P-Value	1.5579E-7

Conclusion with Alpha = 0.05

Reject H0, Conclude Sample 1 > Sample 2

P-Value < alpha (0.05)

Tarone-Ware Sample 1 vs Sample 2 Comparison Hypothesis Test for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.16/16/2021 7:17:46 PM
From File	2021.06.16 - ProUCL Input_Nike_a.xls
Full Precision	OFF
Confidence Coefficient	95%
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: Indeno_Site_0-1

Sample 2 Data: Indeno_Ref_0-1

Raw Statistics

	Sample 1	Sample 2
Number of Valid Data	22	16
Number of Non-Detects	2	4
Number of Detects	20	12
Minimum Non-Detect	9.8	22
Maximum Non-Detect	24	27
Percent Non-detects	9.09%	25.00%
Minimum Detect	20	3.2
Maximum Detect	6000	26
Mean of Detects	564.6	8.617
Median of Detects	295	7.1
SD of Detects	1298	5.892
KM Mean	514.4	8.301
KM SD	1216	5.178

Sample 1 vs Sample 2 Tarone-Ware Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

TW Statistic	5.097
TW Critical Value (0.05)	1.645
P-Value	1.7284E-7

Conclusion with Alpha = 0.05

Reject H0, Conclude Sample 1 > Sample 2

P-Value < alpha (0.05)

t-Test Sample 1 vs Sample 2 Comparison for Uncensored Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.17/13/2021 3:02:46 PM
From File	2021.06.16 - ProUCL Input_Nike_a.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference (S)	0.000
Selected Null Hypothesis	Sample 1 Mean <= Sample 2 Mean (Form 1)
Alternative Hypothesis	Sample 1 Mean > the Sample 2 Mean

Sample 1 Data: Co_Site

Sample 2 Data: Co_Ref

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	22	16
Number of Distinct Observations	22	15
Minimum	2.57	6.5
Maximum	24.7	17.5
Mean	8.614	10.39
Median	8.155	9.605
SD	4.531	3.486
SE of Mean	0.966	0.871

Sample 1 vs Sample 2 Two-Sample t-Test

H0: Mean of Sample 1 - Mean of Sample 2 <= 0

Method	DF	t-Test Value	Critical t (0.05)	P-Value
Pooled (Equal Variance)	36	-1.313	1.688	0.901
Welch-Satterthwaite (Unequal Varian	35.8	-1.368	1.688	0.910

Pooled SD 4.127

Conclusion with Alpha = 0.050

Student t (Pooled) Test: Do Not Reject H0, Conclude Sample 1 <= Sample 2

Welch-Satterthwaite Test: Do Not Reject H0, Conclude Sample 1 <= Sample 2

Test of Equality of Variances

Variance of Sample 1	20.53
Variance of Sample 2	12.15

Numerator DF	Denominator DF	F-Test Value	P-Value
21	15	1.689	0.301

Conclusion with Alpha = 0.05

Two variances appear to be equal

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Uncensor Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.16/16/2021 7:21:19 PM
From File	2021.06.16 - ProUCL Input_Nike_a.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference	0.000
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: Mn_Site_0-1

Sample 2 Data: Mn_Ref_0-1

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	22	16
Number of Distinct Observations	22	15
Minimum	293	201
Maximum	1729	773
Mean	718.7	427.1
Median	580.5	366.5
SD	420.9	192.1
SE of Mean	89.73	48.03

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	510
Standardized WMW U-Stat	2.38
Mean (U)	176
SD(U) - Adj ties	33.82
Approximate U-Stat Critical Value (0.05)	1.645
P-Value (Adjusted for Ties)	0.00865

Conclusion with Alpha = 0.05

Reject H0, Conclude Sample 1 > Sample 2

P-Value < alpha (0.05)

Tarone-Ware Sample 1 vs Sample 2 Comparison Hypothesis Test for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.16/16/2021 7:23:28 PM
From File	2021.06.16 - ProUCL Input_Nike_a.xls
Full Precision	OFF
Confidence Coefficient	95%
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: Se_Site_0-1

Sample 2 Data: Se_Ref_0-1

Raw Statistics

	Sample 1	Sample 2
Number of Valid Data	22	16
Number of Non-Detects	2	0
Number of Detects	20	16
Minimum Non-Detect	1.7	N/A
Maximum Non-Detect	2.8	N/A
Percent Non-detects	9.09%	0.00%
Minimum Detect	0.62	0.87
Maximum Detect	63.9	2.36
Mean of Detects	4.432	1.774
Median of Detects	1.3	1.85
SD of Detects	14	0.378
KM Mean	4.141	1.774
KM SD	13.05	0.378

Sample 1 vs Sample 2 Tarone-Ware Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

TW Statistic	-3.079
TW Critical Value (0.05)	1.645
P-Value	0.999

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

P-Value >= alpha (0.05)

Tarone-Ware Sample 1 vs Sample 2 Comparison Hypothesis Test for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.16/16/2021 7:26:22 PM
From File	2021.06.16 - ProUCL Input_Nike_a.xls
Full Precision	OFF
Confidence Coefficient	95%
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: Tl_Site_0-1

Sample 2 Data: Tl_Ref_0-1

Raw Statistics

	Sample 1	Sample 2
Number of Valid Data	22	16
Number of Non-Detects	10	9
Number of Detects	12	7
Minimum Non-Detect	0.43	0.57
Maximum Non-Detect	2	1.1
Percent Non-detects	45.45%	56.25%
Minimum Detect	0.14	0.14
Maximum Detect	1.9	1.14
Mean of Detects	0.536	0.774
Median of Detects	0.363	0.82
SD of Detects	0.514	0.305
KM Mean	0.418	0.496
KM SD	0.408	0.372

Sample 1 vs Sample 2 Tarone-Ware Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

TW Statistic	-1.136
TW Critical Value (0.05)	1.645
P-Value	0.872

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

P-Value >= alpha (0.05)

Tarone-Ware Sample 1 vs Sample 2 Comparison Hypothesis Test for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.16/16/2021 7:40:57 PM
From File	2021.06.16 - ProUCL Input_Nike_b.xls
Full Precision	OFF
Confidence Coefficient	95%
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: BAP_Site_1-10

Sample 2 Data: BAP_Ref_1-3

Raw Statistics

	Sample 1	Sample 2
Number of Valid Data	23	16
Number of Non-Detects	3	11
Number of Detects	20	5
Minimum Non-Detect	12	11
Maximum Non-Detect	22	12
Percent Non-detects	13.04%	68.75%
Minimum Detect	3.8	5.2
Maximum Detect	1000	88
Mean of Detects	144.5	26.5
Median of Detects	31	14
SD of Detects	247.7	34.76
KM Mean	126.6	12.58
KM SD	229.8	19.77

Sample 1 vs Sample 2 Tarone-Ware Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

TW Statistic	2.255
TW Critical Value (0.05)	1.645
P-Value	0.0121

Conclusion with Alpha = 0.05

Reject H0, Conclude Sample 1 > Sample 2

P-Value < alpha (0.05)

Tarone-Ware Sample 1 vs Sample 2 Comparison Hypothesis Test for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.16/16/2021 7:42:43 PM
From File	2021.06.16 - ProUCL Input_Nike_b.xls
Full Precision	OFF
Confidence Coefficient	95%
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: BBF_Site_1-10

Sample 2 Data: BBF_Ref_1-3

Raw Statistics

	Sample 1	Sample 2
Number of Valid Data	23	16
Number of Non-Detects	2	8
Number of Detects	21	8
Minimum Non-Detect	11	11
Maximum Non-Detect	13	12
Percent Non-detects	8.70%	50.00%
Minimum Detect	6	3.3
Maximum Detect	1300	100
Mean of Detects	204.3	20.19
Median of Detects	50	8.45
SD of Detects	333.2	32.59
KM Mean	187.2	13.14
KM SD	315.6	22.73

Sample 1 vs Sample 2 Tarone-Ware Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

TW Statistic	3.825
TW Critical Value (0.05)	1.645
P-Value	6.5355E-5

Conclusion with Alpha = 0.05

Reject H0, Conclude Sample 1 > Sample 2

P-Value < alpha (0.05)

t-Test Sample 1 vs Sample 2 Comparison for Uncensored Full Data Sets without NDs

User Selected Options	
Date/Time of Computation	ProUCL 5.17/13/2021 3:04:14 PM
From File	2021.06.16 - ProUCL Input_Nike_b.xls
Full Precision	OFF
Confidence Coefficient	95%
Substantial Difference (S)	0.000
Selected Null Hypothesis	Sample 1 Mean <= Sample 2 Mean (Form 1)
Alternative Hypothesis	Sample 1 Mean > the Sample 2 Mean

Sample 1 Data: Al_Site

Sample 2 Data: Al_Ref

Raw Statistics

	Sample 1	Sample 2
Number of Valid Observations	23	16
Number of Distinct Observations	20	16
Minimum	10100	8620
Maximum	20300	17800
Mean	13302	13458
Median	12400	13850
SD	2710	2594
SE of Mean	565	648.5

Sample 1 vs Sample 2 Two-Sample t-Test

H0: Mean of Sample 1 - Mean of Sample 2 <= 0

Method	DF	t-Test Value	Critical t (0.05)	P-Value
Pooled (Equal Variance)	37	-0.179	1.687	0.571
Welch-Satterthwaite (Unequal Varian	33.3	-0.181	1.692	0.571

Pooled SD 2663.329

Conclusion with Alpha = 0.050

Student t (Pooled) Test: Do Not Reject H0, Conclude Sample 1 <= Sample 2

Welch-Satterthwaite Test: Do Not Reject H0, Conclude Sample 1 <= Sample 2

Test of Equality of Variances

Variance of Sample 1	7342381
Variance of Sample 2	6728033

Numerator DF	Denominator DF	F-Test Value	P-Value
22	15	1.091	0.880

Conclusion with Alpha = 0.05

Two variances appear to be equal

Tarone-Ware Sample 1 vs Sample 2 Comparison Hypothesis Test for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.16/16/2021 7:45:32 PM
From File	2021.06.16 - ProUCL Input_Nike_b.xls
Full Precision	OFF
Confidence Coefficient	95%
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: Cr-VI_Site_1-10

Sample 2 Data: Cr-VI_Ref_1-3

Raw Statistics

	Sample 1	Sample 2
Number of Valid Data	23	16
Number of Non-Detects	14	10
Number of Detects	9	6
Minimum Non-Detect	0.32	0.33
Maximum Non-Detect	0.72	0.73
Percent Non-detects	60.87%	62.50%
Minimum Detect	0.17	0.18
Maximum Detect	0.98	0.42
Mean of Detects	0.444	0.292
Median of Detects	0.47	0.285
SD of Detects	0.253	0.088
KM Mean	0.299	0.266
KM SD	0.195	0.0688

Sample 1 vs Sample 2 Tarone-Ware Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

TW Statistic	0.636
TW Critical Value (0.05)	1.645
P-Value	0.262

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

P-Value >= alpha (0.05)

Tarone-Ware Sample 1 vs Sample 2 Comparison Hypothesis Test for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.16/16/2021 7:47:07 PM
From File	2021.06.16 - ProUCL Input_Nike_b.xls
Full Precision	OFF
Confidence Coefficient	95%
Selected Null Hypothesis	Sample 1 Mean/Median <= Sample 2 Mean/Median (Form 1)
Alternative Hypothesis	Sample 1 Mean/Median > Sample 2 Mean/Median

Sample 1 Data: Tl_Site_1-10

Sample 2 Data: Tl_Ref_1-3

Raw Statistics

	Sample 1	Sample 2
Number of Valid Data	23	16
Number of Non-Detects	7	5
Number of Detects	16	11
Minimum Non-Detect	0.42	0.6
Maximum Non-Detect	1	2
Percent Non-detects	30.43%	31.25%
Minimum Detect	0.096	0.26
Maximum Detect	4.07	1.2
Mean of Detects	1.164	0.678
Median of Detects	0.96	0.79
SD of Detects	0.971	0.355
KM Mean	0.918	0.612
KM SD	0.876	0.331

Sample 1 vs Sample 2 Tarone-Ware Test

H0: Mean/Median of Sample 1 <= Mean/Median of Sample 2

TW Statistic	0.761
TW Critical Value (0.05)	1.645
P-Value	0.223

Conclusion with Alpha = 0.05

Do Not Reject H0, Conclude Sample 1 <= Sample 2

P-Value >= alpha (0.05)

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Appendix A

Habitat Assessment Photographs

Appendix B

Daily Field Reports

Appendix C

Data Validation Reports

Appendix D

Water Well Survey

Appendix E

Well Construction Logs

Appendix F

Well Decommissioning Reports

Appendix G

Well Development Logs, Sampling Logs, and Hydraulic Conductivity Graphs

Appendix H

Investigation-Derived Waste

Appendix I

Risk Assessment Guidance for Superfund (RAGS) Part D Tables and ProUCL Output

Appendix J

Background Data Evaluation: BTVs and Hypothesis Tests

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